An Address

ON

THE PRESENT EVIDENCE FOR AND AGAINST THE USE OF TUBERCULIN AS A SPECIFIC CURE.

DELIVERED AT A COMBINED MEETING OF THE CITY DIVISION OF THE BRITISH MEDICAL ASSOCIATION AND THE FINSBURY MEDICAL SOCIETY.

BY

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IT is a fact that no such unanimity exists in the profession as to the specifically curative effects of tuberculin in any of its forms in cases of tuberculosis as exists with regard to the use of diphtheritic antitoxin against infection with the Klebs-Loeffler bacillus. It is also a fact that tuberculin is nevertheless being widely used as a true specific, and observers are to be found—some who are certainly convinced of its efficacy; some who, though they are uncertain, are driven to use it by the force of opinion of those who are certain. There are others who are equally sure that the evidence of its specific value is insufficient, and even that it is a harmful drug, and they will not prescribe it.

With such a chaotic state of affairs it is reasonable to consider the whole subject critically, to take the evidence for and against its use, and to endeavour to arrive at some satisfactory conclusion.

KOCH'S FUNDAMENTAL EXPERIMENT.

It cannot be out of place, with such a programme, to go back to Koch's own experiments and to examine calmly his statements and see whether, after all the years that have elapsed since 1890–91, any support for his contentions has been advanced.

Koch's first public utterance on the use of what was known as tuberculin three months later was made at the first general session of the Tenth International Medical Congress, held in Berlin on August 4th, 1890, and can be found in the reports of the congress in various periodicals—for example, in the *Deutsche medizinische Wochenschrift*[1]—and in the BRITISH MEDICAL JOURNAL of August 16th, 1890, p. 383. His address was largely a general survey of the accomplishments and the hopes of bacteriological study. After referring to the efforts he had made to discover something which, whilst checking the growth in the body of tubercle bacilli, effected no harm on the body, he said, with a very pointed observation, that his investigations, though carried out for nearly a year, were not complete, and

> that guinea-pigs, which, as is well known, are extraordinarily susceptible to tuberculosis, if exposed to the influence of this substance cease to react to the inoculation with tuberculous virus, and that in guinea-pigs suffering from general tuberculosis, even to a high degree, the morbid process can be brought completely to a standstill without the body being in any way injuriously affected.

In the same German periodical[2] during the month of November, 1890, he published an article on "*Weitere Mittheilungen über ein Heilmittel gegen Tuberkulose*," giving the results of the application of this substance to the cure of human tuberculosis. In 1891 Koch gave further experimental details:

> If a healthy guinea-pig is injected with a pure culture of tubercle bacilli, the inoculation puncture as a rule closes and in the beginning appears to heal; in the course of ten to fourteen days a small nodule occurs which soon breaks through the skin, forming *an ulcer which lasts until the animal dies*. Quite a different result occurs if a guinea-pig which is already tuberculous is inoculated, especially if the inoculations take place four to six weeks after the first one. In such an animal the seat of inoculation at first closes as in the above animal, *but no small nodule forms*; on the next or following day a *peculiar change takes place at the* site of the inoculation. *This becomes indurated and darker in colour, and these changes spread over the neighbouring parts until the total area measures about 0.6 to 1.0 cm. across. During the next days necrosis of the skin takes place*, and there remains *a superficial ulcer which ordinarily heals quickly and permanently without the neighbouring lymphatic glands being infected*. The injected tubercle bacilli act quite differently upon the skin of a healthy as compared with that of a tuberculous guinea-pig. This striking change does not belong exclusively to living tubercle bacilli, but occurs just the same with dead tubercle bacilli, whether they have been killed by prolonged low temperatures or by heat or by certain chemicals.[3]

If you will peruse the works of modern writers (Löwenstein, Cornet,[4] Römer, Bandelier, and Roepke[5]) who concern themselves with the use of tuberculin, you will find the above paragraph. They all fall back upon it as the original statement published by Koch in support of the use of tuberculin. Löwenstein, who is responsible for the article on the therapeutic application of tuberculin in man, in Kraus and Levaditi's *Handbuch der Technik und Methodik der Immunitätsforschung* (Erste Band, S. 821, 1908), goes on further to say that by means of these fundamental observations of Koch it was established that the animal body after a single injection developed definite resistance against reinfection—a statement which every reader will acknowledge is quite in accordance with the experimental data given by Koch. Löwenstein proceeds to say that the idea of using these agencies which rendered the second injection innocuous as a means of influencing the deposits brought about by the first injection led Koch to the specific treatment of tuberculosis. Koch thought if antecedent tuberculosis profoundly modified subsequent inoculation, it was possible that inoculation also profoundly affected the antecedent tuberculosis. He experimented, and stated the experiments confirmed his speculations.

At this point it is necessary to pause and realize how the modern worker views the fundamental experiment above detailed. What must be noted was that Koch in the first part of his experiments practically performed a von Pirquet test upon his tuberculous guinea-pig. The superficial ulceration which healed and which resulted from the second inoculation was an expression of the phenomenon now known as a von Pirquet test, and is explained, as will later be seen, by the laws which govern anaphylaxis or hypersensitiveness. Now follow Koch's further observations.[3] He found that if the second inoculation of a tuberculous guinea-pig with tubercle bacilli was a large one, the animal died. This again is easily understood, thanks to the development of our knowledge of anaphylaxis, as being an example of anaphylactic death. The crucial point now remains, and that is that Koch[3] observed that if small frequently repeated doses of tubercle bacilli were injected into a tuberculous guinea-pig, not only was the general condition of the animal improved, but the ulcerating wound, situated where the tubercle bacilli were originally injected and which caused the animal to become tuberculous, *also showed favourable retrogressive changes, and the disease was brought to a standstill in the animal*.[6] It was, in fact, cured.

Now, this definite statement of the actual bringing the disease to a standstill, or of the favourable influence upon tuberculous lesions in guinea-pigs, coming from such an authority, ought only to be questioned with the greatest care. There is no need to recall the stir made by subsequent papers, in which marvellous cures in men were announced, because of the many disastrous consequences to life which also were so obvious. It is said now that too great doses were given and the wrong cases were treated. These statements have been repeated all over the world, and it must be admitted the swing of the pendulum has brought tuberculin into use again.

But what has happened with regard to the original experiments? Has any one been able to repeat Koch's experiments, and show that an infected guinea-pig can be cured by the use of tuberculin, whether old tuberculin (T.A.) or the second tuberculin (T.R.), or the third tuberculin (B.E.), or albumen-free tuberculin, or bovine tuberculin, or tuberculin derived from avian or other sources? Has it ever been successfully essayed to cure cattle of

tuberculosis by such means rather than slay them because they have been proved to be tuberculous by the tuberculin test? Is it not a certainty that if bovine tuberculosis could be cured by the use of tuberculin, its use for such purposes would be world-wide? On the contrary, we hear of numbers of cattle being slain in order to stamp out the malady. We even hear of cattle being "doctored" so that they will not give the tuberculin test, and so be saved from destruction. If it were proven that tuberculous cattle could be cured by vaccination by means of tuberculin, we may be quite sure (1) that it would be widespread in veterinary practice, (2) that the whole medical profession would have adopted it with very little hesitation, and they would have been justified. But where are the reports on cattle which should make us at ease on this point? Frankly, they do not exist. There are many reports dealing with the preventive treatment of calves by means of tuberculin, but even that important question cannot be satisfactorily answered because of fallacies which in part beset Koch's own original investigation. Supposing a calf does not give the tuberculin test, and therefore is considered to be free from tuberculosis, and a prophylactic course of tuberculin is given to it, and it neither yields a tuberculin test eventually nor becomes tuberculous, how can any one argue from such data that the apparent freedom from tuberculosis is a reality, when it is known—

(1) That an animal may cure tuberculosis spontaneously (and yet give a tuberculin test);
(2) That it may be tuberculous and yet not give a tuberculin test, and
(3) That the undetected tuberculosis that it may already be burdened with may be (see Koch's experiment) the reason why it cannot be reinfected?

These facts have plagued veterinary surgeons to such an extent that there is not unanimity amongst them as to the value of the evidence for using even prophylactic vaccination in calves, and it also explains why there is no attempt to vaccinate tuberculous cattle in order to cure them. Can it be wondered at that the medical profession is not unanimous in its advocacy of the present fashion for curing human tuberculosis with any form of tuberculin administered in any particular method? Contemporary textbooks and guides to the use of tuberculin do not face these difficulties of comparative therapeutics, and one well known one is a standing example of the troubles caused by Koch's unconfirmed experiments—on one page it makes out that when the tuberculous guinea-pig was injected with subsequent doses of tubercle bacilli the ulcerating wound formed where the *first* injection was made, which caused the guinea-pig to become tuberculous, healed as a result of the second injection, and yet on a later page the author says it was the small superficial necrosis of the *second* site of inoculation which healed.

To sum up the evidence in favour of the allegation that tuberculin can cure a tuberculous animal, whether calf or guinea-pig, there *is no evidence but Koch's.* Bandelier and Roepke[7] admit that they must confess that the healing of infected guinea-pigs and rabbits by means of tuberculin preparations has been accomplished by only a few authorities who have been engaged in such extremely tedious studies, and shield themselves from criticism in this direction by saying that rabbits and guinea-pigs are such unsuitable animals to work upon. And yet these two authors, like all others who advocate the use of tuberculin, set out in full the details of Koch's experiments which led to the introduction of tuberculin and say that the basis of its use is these self-same experiments on guinea-pigs. What has been said to be a proof is entirely nullified by the fact, admitted by bacteriologists, that both varieties of animals may be spontaneously tuberculous and may spontaneously cure themselves of the tuberculosis, and yet this cannot be established until after the death and complete dissection of the animal. If this is the case with guinea-pigs and cattle, the lives and deaths of which can be so fully observed and encompassed, it is just as certain with regard to human beings, who, like the animals, may be tuberculous and yet yield no test, chemical or otherwise, that they are.

To many physicians the result of animal experiments is quite enough, or shall we say the difficulty of establishing or not the fact of tuberculous disease in animals is great enough to make them set their faces against the practice of using tuberculin to cure human tuberculosis? And yet hard things have been said about withholding tuberculin from tuberculous mankind. The pendulum has swung back in favour of using tuberculin again; but it is even more impossible to-day than it was in the years immediately succeeding 1890–91 to quote evidence in support of Koch's experimental results.

The Modern Dosage in the Use of Tuberculin.

Ignoring the unsatisfactory nature of Koch's alleged cures of tuberculosis in animals which have never been confirmed and which will not stand criticism, though such of his experiments which show merely the truth of the principles of anaphylaxis have been fully confirmed, workers abroad have developed the practice of giving the tuberculin in infinitesimal doses compared with the original ones. But in face of the objections already raised in the last section, it really does not matter whether the dosage is large or small so long as the experimental proof of cure by means of tuberculin has never been established. Neither large nor small doses of tuberculin are used to cure the tuberculosis of cattle.

The Experience of Urinary Surgeons of the Value of Tuberculin.

It is pointed out that, despite the abandonment of the use of tuberculin in other affections, certain urinary surgeons have remained loyal to the use of tuberculin in this disease. Marvellous cures of the disease are recorded even during the years immediately succeeding 1890–91.

Later on it will be pointed out that the element of "control," without which no specific cure can be established, forms no part of the demonstration of the extreme usefulness of tuberculin in these cases. It is usually found that some of the number to whom tuberculin is given are "better after receiving it."

The Post-mortem Demonstration of Cured Pulmonary Tuberculosis.

Much capital has been made out of such well-known phenomena. There is no hesitation whatever in admitting that tuberculosis may be completely cured, but to argue that because tuberculin does produce a reaction in a large number of tuberculous animals and in man it must be a means of effecting this cure is illogical. No one questions that the Widal test is a proof of typhoid fever, and yet no one has established that typhoid vaccine is a cure for typhoid fever already contracted. Observations seem to show that it is a prophylactic against typhoid fever for one or two years, and so tuberculin may be a prophylactic against tuberculosis for a period of three months in cattle, but no one has the right to say that a process which is an effective agent in preventing a disease must *ipso facto* be effective when the disease has already begun.

The Encouraging Effect upon the Patient and Doctor of doing something for the Patient instead of leaving him to specifically Cure or Not Cure Himself.

It almost seems out of place to consider such a matter in the discussion of so serious a subject as the adoption of tuberculin to cure tuberculosis. No reference would be made to it were it not that we are in direct contact with patients. Patients ask for tuberculin to be administered, and how can we refuse them when the public press lends its advocacy, when tuberculin is even used in obedience to the permission of the Insurance Act? What every man must feel is that if his convictions are that such and such a remedy cannot cure specifically he must say so and withhold it.

The Antitoxin Treatment of Diphtheria.

So impressive was the great reduction of the mortality after the introduction of diphtheria antitoxin that the hope arose that all infections would yield the same happy issues. It is a fact that there are many who to this day think that tuberculin is an antitoxic serum, and should therefore be successful. The final section of this address will serve to show that such a view is utterly wrong. The use of the serum of a horse which carries in it material which is capable of neutralizing the poisonous effects of diphtheria bacilli, and that

this can be shown to occur in a test tube as well as in the human body, is one thing, but to cure an infection with the tubercle bacillus by means of tuberculin derived by breaking up tubercle bacilli and making an emulsion of them is quite another.

The Variety of the Cures of Tuberculosis.

There are those workers who still maintain that sanatorium methods are the only ones which effect a cure of tuberculosis; there are others, again, who repudiate all such claims, and who advocate treatment with tuberculin alone; and now there is a group of workers who maintain that the combination of tuberculin and sanatorium treatment is necessary. These facts alone point to a difference of opinion which begets the suspicion that perhaps the tests applied to prove the efficacy or not are at fault. A most important paper has recently been published by Messrs. Palin Elderton and Perry.[8] They show that tuberculin treatment does not contribute any increased length of life to the patient when carried out in conjunction with sanatorium treatment, as judged by the large amount of material for investigation provided by Dr. Lawrason Brown in America and Drs. Prest and Guy in Scotland. The same suspicions are aroused when distinguished Continental workers put forward the idea that the disease is after all to be cured by an antituberculous serum, and when it is said a "cure" is to be found in quite a different direction—namely, by the production of artificial pneumothorax. Of Friedmann's cure we have still to await further details. We have heard of "pneumosan" and "dioradin." With such a varied list of cures, blessed by one school and condemned by another, is it remarkable that the layman should also offer his "remedies" for a cure? Further, is it remarkable that members of our profession are also convinced that the specific cure has yet to be found? Professor Metchnikoff in his recent address[9] delivered in London has nothing to tell us of a remedy which specifically cures tuberculosis.

The Method Adopted to Test the Value of Tuberculin.

No one can look into the problem of the cure of tuberculosis without becoming aware that the secret which underlies the existence and development of so many vaunted "cures" is to be discovered in our ways of estimating their value. When the layman copies these ways we are angry, and condemn him, and feel justified in doing so (1) because he does not announce his cure through channels which we consider proper, and (2) because we argue that he does not know the nature or course of the disease. We have seen with regard to tuberculin that there is no confirmation that an animal can be cured of tuberculosis by means of it; therefore in advocating it, we put ourselves in a faulty position similar to that of the layman with his "causal" cure. There remains, then, but one way in which we differ from him—we know the nature and course of tuberculosis, and he does not. It seems to me that we have not made enough of our knowledge of the course of tuberculosis if left unaided. Of 1,532 cases of pulmonary tuberculosis (tubercle bacilli being present in the sputum), it was found that one-seventh lived five years and more from the date of the manifestation of tuberculosis, one-thirtieth lived over fifteen years, and in five cases there was documentary proof that they had lived sixteen, eighteen, twenty-four, twenty-five, and forty years. Not one of these cases had been treated in a sanatorium nor had they received tuberculin.[10]

The fact is that as a profession we are wrong in our methods of estimating "cures" in the only sense a layman wants to hear of them—real "cures," complete eradication of the cause. We have too long judged of "specific" cures without allowing for the *post hoc, propter hoc* fallacy. We cannot afford to do so any longer, because our statements are being revised by skilled mathematicians; our "impressions" of proof of cure have been put into the scales and they are found wanting. Professor Karl Pearson tells us[11] that, taking our own death certificates as supplied to the Registrar-General, it is clear that a fall in the death-rate from tuberculosis of the lungs had begun in 1835 and continued till 1891. Since then it has ceased to fall, despite the help that has come, so it is said, from the use of sanatoriums and of tuberculin. It has been said that tuberculosis dispensaries have led to a great fall in tuberculosis in a certain town, but the same critic is able to show that the fall was paralleled in two other towns in which the dispensary system had not been introduced. We physicians, therefore, have failed to establish by our own death certificates or by our methods of inquiry any improvement due to sanatoriums, tuberculin, or dispensaries. The improvement was due to a natural process of which we have been unmindful.

It is not without interest that I should have figured as one of the collectors of evidence in favour of the use of tuberculin.[12] In 1905 tuberculin was not used in this country for the cure of pulmonary tuberculosis. I circularized every institution which had to do with this disease and found this out. Following out non-critical methods, I published results such as the following: Of 656 early cases treated with tuberculin, 91 per cent. reached a certain standard of improvement, whereas, of 611 not treated with tuberculin, only 62 per cent. reached the same standard. But when the individual accounts of certain workers whose reputation is world-wide were looked at, the large difference of 29 per cent. disappears. Dr. Turban treated 86 cases with tuberculin, and of these 52.6 per cent. achieved permanent good results; of 241 not treated with tuberculin, only 39.4 per cent. achieved the same result—a difference of 13.2 per cent. Dr. Trudeau was able to find that the use of tuberculin was followed by an increase of cures of 8 per cent.

Now it may be argued that these last figures are quite good enough, and until they are found to be wrong it would be useless to deny the use of tuberculin simply because experiments on animals had failed to establish the same happy results. At the time I wrote that article I thought so too, but subsequent experience has shown that cases reported to be cured too often broke down again later, that "permanent good results" gave place to permanent and final bad ones, and that physicians are not sufficiently skilled in making mathematical deductions. It is obviously difficult to find proof of the efficacy of tuberculin treatment by methods which do not take into consideration the whole of the life, or which cannot be controlled as can those in animals, by slaughter and the examination for active disease. An interested critic of our methods of testing the value of tuberculin propounded to me a method which, if carried out in a large number of cases, would satisfy him. I was to find a group of cases of pulmonary tuberculosis which were recognized by tuberculin advocates as suitable for treatment with a reacting dose of tuberculin; half were to be treated with tuberculin and half without, other conditions being equal. The choice of each half was to be left to chance; I was not to pick out those "specially" favourable ones as suitable for tuberculin. This method of testing the value of tuberculin is opposed entirely in principle to that advocated by modern workers. Bandelier and Roepke[13] lay it down as an axiom that the cases must be selected ones—individualization is the secret of success—extremely early cases are the only likely ones to give satisfactory results (*sic*); they do not give sufficient prominence to the fact of spontaneous cures in such cases. As a test of the improvement of the lung condition, I chose the method of registration of the advance or retrogression of râles after three months' treatment. Dr. Rigg, the house-physician who bore the burden of the test, has recently published the results.[14] Of the 10 tuberculin treated patients, 1 improved, 4 became worse, and 5 remained *in statu quo*. Of 9 non-tuberculin treated patients, 4 improved, 3 were worse, and 2 remained *in statu quo*. It cannot be said that this is a clear argument against the tuberculin effects on the lung, because it might equally well be maintained that it was an argument against using a remedy which so raised the temperature as to keep the tuberculin treated patients in bed, whilst the others were up and about; but still this method of giving tuberculin is advocated at the present time and is being extensively used. We are now trying a series of cases in which this difficulty will be met.

The Evidence of Individual Cases, or of Series of Cases, Neither Controlled.

No greater fallacy needs exposing than that which underlies the statements of individuals who have been "cured" after this, that, or another treatment. One has

only to ask, as veterinary surgeons have now to ask themselves, How can one be sure when a human being or animal appears to overcome a tuberculous lung affection that such victory has necessarily followed, not from Nature's efforts, but because of the remedy used before the improvement comes? It is certain that if any proprietary article or quack remedy, etc., were applied to cases of pulmonary tuberculosis, some of the individuals would get better after its use. The same may be said of tuberculin. Such evidence is set at naught because patients recover spontaneously just as cattle do. But there have been many series of cases reported in which it is said there is evidence that tuberculin is a specific cure. The criteria have differed in different reports. Bandelier has published results of tuberculin treatment; he found that 100 per cent. of the cases in Turban's first stage lost their tubercle bacilli; 87 per cent. of the cases in Turban's second stage and 44.2 per cent. of the cases in Turban's third stage also lost their tubercle bacilli. The total cases treated numbered 202. We have a right to ask, What would such cases have done without tuberculin? And it is right to object that disappearance of tubercle bacilli from the sputum is too often but a temporary phenomenon.

What Does Tuberculin Do?

Like all vaccine treatment, tuberculin is certainly capable of effecting a change in the aspects of the disease. But it has never been experimentally proved that such changes are curative; the alleged curative changes can be explained on anaphylactic grounds. To explain this requires technical consideration.

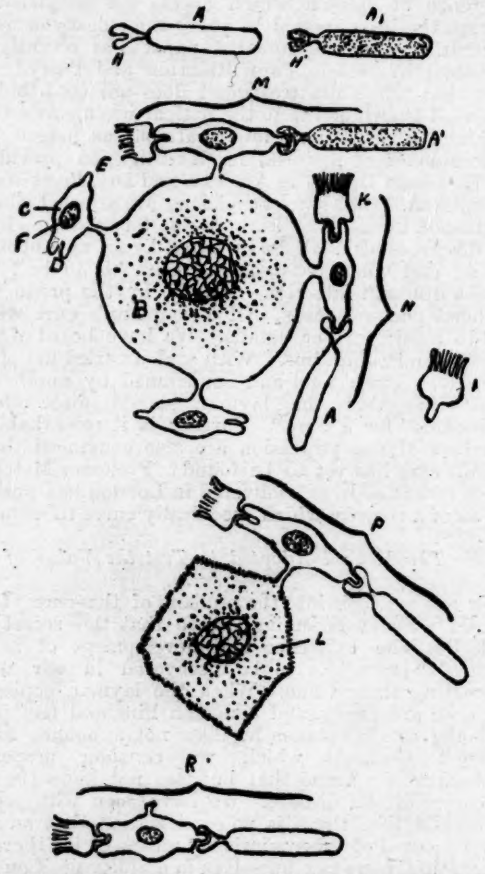
We know that when diphtheria bacilli invade the body, they poison the body by means of diphtheria toxin; the patient may resist the effects of this toxin by manufacturing his own antitoxin; nowadays we do not wait to see if he does, we administer antitoxin developed experimentally in the horse. The toxins of tetanus and botulismus or sausage poisoning can be met by a similar mechanism. The chemical response of the cells of the body to and against the toxin are figuratively expressed as receptors of the "first" order of Ehrlich. Their interaction is diagrammatically figured in most textbooks of bacteriology. These receptors are certainly of therapeutic value.

When the typhoid organism assails the body, a different group of chemical actions is developed on the part of the body cells; the serum of the body now possesses not antitoxic but agglutinative properties; no one has demonstrated that this development of what are known as receptors of the second order has any therapeutic significance, though the diagnostic value is of the greatest importance (Widal test for typhoid fever).

It is seen, then, that receptor development following upon bacterial invasion is not necessarily of benign curative purpose. We may expect more complicated receptors than those of the first and second order to be developed, of different properties, and again not necessarily of therapeutic value.

This brings us to the consideration of another group of receptors—the third order—which has particular interest in connexion with this address. It enables us to understand better the meaning of anaphylaxis, of a von Pirquet test, and of a tuberculin test; it also enables us to understand such complicated tests as the "complement fixation" test for tuberculosis, and if recent experiments are confirmed it will enable us to understand how the effects of tuberculin administered as a curative agent can be explained on other grounds than therapeutic ones; finally, it will help us to understand why two cases—one under the care of A. Fraenkel and one under Wolff-Eisner—developed a tuberculous ulcer on the tongue and tuberculosis of the lungs respectively, whilst undergoing a course of tuberculin treatment for lesions located elsewhere in the body.[15]

Let us suppose that a tubercle bacillus (A) enters into the body of an animal. It may, and probably does, in countless instances suffer annihilation by agencies which have been transmitted from the animal's parents. No infection occurs, and the animal is none the worse. But supposing there is more than one bacillus, or that the one gaining access is more virulent, or suppose that the animal has inherited from the parent no insusceptibility, something like the following takes place: A cell of the body (B) in the neighbourhood of the deposit of tubercle bacilli is busy with one of its physiological duties of absorbing nourishment; it includes the tubercle bacilli in this category, and the effect upon the cell is to increase its appetite for more (a popular expression for Weigert's law that an excessive stimulus provokes an increased supply of receptors or chemical affinities). Let us represent this increased appetite by a cell with several receptors attached to it of the pattern C. This is known as an "amboceptor," because it can attach at D a special agent known as complement (K), which is present in all living healthy animals, more in some than in others; at its opposite extremity, E, it can also attach to itself a tubercle bacillus (A) or tuberculin (A'), which also



DIAGRAMMATIC REPRESENTATION OF CELLS, RECEPTORS, ETC.
A, Tubercle bacillus, with its chemical affinity for cells of the body represented by a receptor, H. A', Tuberculin, with its chemical affinity for cells of the body represented by a receptor, H'. B, A cell of the body showing four fixed or sessile affinities or amboceptors, C, capable of uniting with a tubercle bacillus or tuberculin at E and with complement, K, at D. M, Tuberculin-anaphylatoxin, composed of three elements - complement, amboceptor, and tuberculin. N, Tuberculo-anaphylatoxin, composed of three elements—complement, amboceptor, and tubercle bacillus. F, A ferment present in each amboceptor. The combinations M or N when completed lead to the dissolution of the tuberculin or the tubercle bacillus and the cell B. The liberation of digestion products is accompanied, according to the quantity liberated, by the phenomena of anaphylaxis in slight or extreme degree, anaphylactic death, anaphylactic shock, or "tuberculin reaction," with rise or fall of temperature, etc. P, Tuberculo-anaphylatoxin operating on a "prickle" cell, L, of the skin. The change in the cell, L, contributes to the production of what is known as a "von Pirquet" reaction; if it took place in a conjunctival cell, to a "Calmette" reaction. R Represents "free" tuberculo-anaphylatoxin. Were it possible to demonstrate the existence of "free" tuberculo-amboceptors, then the serum treatment of tuberculosis would be reasonable. Were it possible to demonstrate "free" tuberculin amboceptors, the tuberculin treatment of tuberculosis would be reasonable; but in both cases the undesirable effects of anaphylaxis would have to be met.

have chemical affinities represented figuratively as receptors (H and H'). We must also suppose that resident in the amboceptor is a special ferment (F) which is capable of acting upon protein and breaking it up into much simpler bodies—for example, peptones or albumoses, or amido-acids, and into some substance capable of influencing temperature. We will suppose (at first) that these amboceptors are anchored to the cell B. When to this "sessile" or "fixed" amboceptor complement is attached at D and

antigen (in the shape of tuberculin or tubercle bacilli) at E, it is as if a match had been put to a firework. The ferment resident in the amboceptor can now operate on the cell B and the antigen E, and lead to the above proteolysis of both. If this is complete a liquid residue is all that remains, if incomplete the cell B is swollen and its nucleus obscured; cell death is more or less complete. Presumably when a focus of tuberculosis develops all the cells in the neighbourhood undergo change, and we recognize a "tubercle" by the naked eye—grey, white, or caseating according to the stage of action. But it is possible that cells far removed from the seat of tuberculosis may also have their special receptors developed—for example, in the skin L, subcutaneous tissues, etc. We must suppose, too, that these receptors may be inherited, or they may develop after birth as the result of an infection. They may exist, therefore, although there is no certain tuberculosis present in any part of the body. In other words, these receptors are a sort of hall mark of infection which may be inherited or acquired.

Now let us introduce into such a tuberculous animal a dose of tuberculin as Koch did in his original experiments. This reaches E in numerous cells; complement is fixed and a "reaction" is set going, so thoroughly described by Koch years ago. One thing we now know is that such reaction is a test of the presence of suitable receptors, *not necessarily of active tuberculosis*. The reaction is slight or brisk, and may be fatal, according to the available receptors and the dose of tuberculin. This helps us to understand the catastrophes following on Koch's introduction of tuberculin. The temperature may rise or fall or remain unaltered according to the amount of poisonous material let loose when the reaction takes place. The combination of complement, amboceptors and antigen, for example, tubercle bacilli or tuberculin, is known as "anaphylatoxin," the reaction this brings about as "anaphylaxis." If tuberculin is given repeatedly, it will use up all the tuberculo-amboceptors, until reaction is no longer given. The individual can, as is well known, become completely insensitive to tuberculin; this insensitiveness cannot experimentally be transmitted from one animal to another.[16] We begin to see why it is that the giving of tuberculin is not necessarily followed by cure because there is no reaction, and we see why Fraenkel and Wolff-Eisner's cases, though undergoing treatment with tuberculin, were yet developing fresh tuberculous lesions elsewhere. Koch was able to show the difficulty of reinfecting his tuberculous guinea-pigs when he reinjected them with tubercle bacilli in small amounts; it is easy now to see why; the tubercle bacilli were at once fixed by tuberculo-amboceptors and digested, producing symptoms or not according to the amount of available receptors and tubercle bacilli; these experiments, first announced by Koch, have now been shown by Römer[17] to be true. Whether temperature alterations occur is dependent upon the amount of poison liberated (Thiele and Embleton).[18]

Now, the theory thus given says nothing about an attack upon the tubercle bacilli which are responsible for the formation of the amboceptors in the first case. Such organisms may be locked up in some fibrous focus, they may be quite unaffected, they may be busy provoking the formation of fresh amboceptors. Indeed, so far as animal experiments go, no one has ever succeeded since Koch did, *pace* the "few cases" referred to by Bandelier and Roepke[19] (no reference given), in showing that the injection of tuberculin does affect the life of these organisms, to the extent of bringing the tuberculous process to a standstill. This part of his original statement has never been confirmed, whereas the rest has been repeated by Römer. Römer gives no statement to the effect that in repeating Koch's experiments he also was able to cause the original tuberculous process to come to an end. Römer's writings show only too well the impossibility, which he fully recognizes, of ruling out spontaneous cures and infection. It is so common to hear that vaccines, including tuberculin, increase the individual resistance, that the increase of the resistance is shown in the diagram, and that the diagram is a perfect support of the contention that just as the amboceptors attach themselves to artificially introduced tuberculin or tubercle bacilli, so they will attach themselves to tubercle bacilli naturally occurring and causing the development of amboceptors. The reply must be that the absence of proof of this last happy issue in animals negatives such a view, and it is also understandable that tubercle bacilli ring-fenced in inaccessible fibrotic or caseous foci are not approachable by such a mechanism. There is nothing of a curative nature to be discovered from anaphylaxis; it is a reaction, not necessarily defensive, of the body to any foreign protein introduced from without, whether bacterial or other.

The recent work of Drs. F. H. Thiele and D. Embleton[20] on some observations on the production of temperature variations should be read by those who are interested in the problems associated with tuberculin treatment. They show that very probably the poisonous effects produced in the body by bacterial invasion are not the results of poisons developed in and by the living bacteria, but are due to the operations of the invaded organism which, by means of its amboceptors, produces poisons by the digestion of the invading bacteria. Indeed it looks as if the body may tolerate infection well enough, but what it cannot always tolerate is the poisoning which is set agoing when the body cells react against these bacteria. Tuberculin when administered actually helps this poisoning; in 1890 and 1891 such catastrophes were frequently seen because large doses of tuberculin were used; when, since 1905 and 1906, some form of tuberculin has been administered in small doses the poisoning has been whittled down to small injuries as tuberculin reactions and tuberculin cures. This may sound a revolutionary doctrine, but it is one which follows upon the advent of the discovery of anaphylaxis.

The Bearing of the Success of Antityphoid Inoculation.

So far my task has been an easy one; practically all the points in favour of the use of tuberculin to cure disease already existent have been met with counter-explanations, and I sincerely hope my arguments have been fair and have convinced you that the tuberculin cure of human tuberculosis so far is unproven.

But I admit to you I am in a great difficulty when I contemplate the fact announced by Sir William Leishman in this country and by workers abroad in favour of antityphoid inoculation. It has been shown that the prophylactic inoculation with a typhoid vaccine confers on the individual for about two years a lessened risk of contracting typhoid fever; or if contracted, of reducing the case mortality until at the present time, amongst those so inoculated, the number of soldiers in the British army who contract typhoid fever is less than the number who died from it a few years ago. The advocates of the tuberculin treatment of *established* tuberculosis, or for the vaccine treatment of any *established* infection, feel that if typhoid fever can be reduced in case incidence and in case mortality by vaccination before the disease is developed, it should be able to be controlled by vaccination after the disease is developed. I can say at once that figures have yet to be published to establish this speculation. It is not difficult to see that if antityphoid amboceptors are developed in a healthy individual before he contracts typhoid fever, when the infection does occur it finds the cells of the body *ready* to digest the bacilli as they arrive. Every cell to which the typhoid organism gets access is provided with receptors whose life is about two years, which are ready to behave in the manner above described.

If tubercle bacilli, on the other hand, gain access to the body, if they surround themselves with an almost impenetrable ring of fibrous tissue, caseous or calcified material, then any subsequent development at a remote part, say, of the skin or subdermic tissues of "sessile" tuberculin- or tuberculo-amboceptors by means of injections of tuberculin or tubercle bacilli, may be quite unable to reach the tubercle bacilli. Once again, and finally, until animal experiments can be made showing that this difficulty can be overcome, or until a critically controlled application of tuberculin to a large number of tuberculous human beings can be shown to cure the tuberculous lesion, I submit that the case for tuberculin cure is unproven.

There still remains one more point which must be discussed, and it is this: It may be fairly asked whether it is

not possible that some of the alleged cases of cure of tuberculosis by means of tuberculin are, after all, real and explainable on the ground that all the tuberculin-amboceptors figured in the above diagram do not exist in the form of "fixed" receptors—that some are "free," circulating in the blood stream, and are capable in certain "suitable" "early" cases of tuberculosis of gaining access to the tubercle bacilli present in the focus of tuberculous disease before the latter is rendered inaccessible by fibrosis or other processes of caseation, etc. Such a possibility must be admitted, because by the "complement" fixation method it is possible to demonstrate in certain tuberculous subjects the presence of antibodies in the serum. The answer is that, though infection with living tubercle bacilli may be productive of the formation of tuberculo-amboceptors, which will react to living tubercle bacilli introduced at a second injection or to tuberculin, and which may be free in the blood stream and may give a positive complement fixation test, no one has ever succeeded in proving that if a healthy animal is injected with tuberculin, tuberculin-amboceptors are produced, which will react to living tubercle bacilli, causing their death and solution, or that the serum of such an animal gives a complement fixation test, using living tubercle bacilli as antigen. Moreover, it is well known that no one has ever succeeded in demonstrating in a non-tuberculous man a positive von Pirquet reaction, simply dependent upon repeated previous injections with tuberculin.

Though experimentation has shown that previous tuberculosis, by means of tuberculo-amboceptors, certainly "fixed" in character and may be "free," may prevent subsequent infection with tuberculosis, it has not shown that tuberculin-amboceptors, "fixed" or "free," can prevent subsequent tuberculous infection. Römer[21] has supplied some evidence which supports this latter contention, for he has found that cattle immunized by living tubercle bacilli and normal animals both show about the same sensitiveness to tuberculin, while the immunized animals show a high degree of hypersensitiveness to tubercle bacilli as a sign of their immunity, and the control normal animals do not.

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THE *Liverpool Daily Post and Mercury* has succeeded in collecting £2,000 in ten days for the purpose of supplying radium for the treatment of cancer at the Liverpool Royal Infirmary.

AN international congress on the protection of infancy is to be held in Brussels in July. The work of the congress will be divided among two sections: (1) Children morally abandoned, with special reference to the competence of the courts in respect of children, and the organization of supervision, having regard to liberty. (2) Infancy and puericulture, including the establishment of uniformity of the bases of statistics of infant mortality; consideration of the means of popularizing the principles of hygiene and puericulture; measures of protection for the child outside the home, whether of the father, the mother, or the legal guardian. The sections will discuss together the question of the creation of an international bureau for the protection of infancy.

PLEA FOR UNIFORM METHOD OF TREATMENT WITH TUBERCULIN.

BY H. HYSLOP THOMSON, M.D., D.P.H.,

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NOTWITHSTANDING much excellent work which has been accomplished during recent years in connexion with the specific treatment of tuberculosis, there still exist much confusion of thought and diversity of practice with regard to the best method of administering tuberculin. There is little or no uniformity of practice in the variety of tuberculin used, in the method and frequency of administration, or in the cases selected for treatment. To the writer it seems that what is urgently required at the present moment is the placing of the treatment of pulmonary tuberculosis with tuberculin on a rational uniform basis which will provide a guide to the general practitioner, who rightly complains against the multiplicity of tuberculins recommended and the difference of opinion regarding treatment which exists among experts. It is not possible, nor in view of the value of comparative studies is it desirable, that a uniform method of treatment with tuberculin should be applied to the whole country. It is certainly desirable, however, that some uniform procedure with regard to the methods and variety of tuberculin used should be applied in each county or district in which the machinery for dealing with tuberculosis is now being established. The aim of tuberculin treatment is to evoke a focal immunizing response *pari passu* with the production of a well-marked degree of tolerance both to the endotoxin and the exotoxin of the tubercle bacillus. The production of a rapid and well-marked tolerance to the exotoxin alone by the inoculation of filtrates of various strengths does not protect the patient sufficiently against the body of the bacillus, and may indeed mask the presence of a slowly progressive lesion. The researches of Koch, Wright, and other observers have demonstrated that it is the body of the bacillus with the contained endotoxins to which we most look for the production of any efficient and permanent immunizing response. Moreover, clinical experience bears this out. Recently I examined a patient who had received over 90 inoculations of exotoxic tuberculins of increasing strengths. There was an entire absence of constitutional symptoms, but crepitations were audible over four lobes, there was a large interarytenoid ulceration, and the urine contained tubercle bacilli. This patient followed his occupation up to a few weeks before death. Clearly in his case the production of tolerance proved a curse in disguise.

It has generally been accepted that the method of treatment with tuberculin is the same at the dispensary as in the sanatorium, but this is not the case. In the sanatorium patients are under constant medical supervision, and the amount of muscular and respiratory activity is regulated according to the requirements of each individual case. In the sanatorium treatment by auto-inoculation takes the place of the preliminary course of treatment with exotoxic tuberculin at the dispensary. I have previously[1] pointed out the excellent results obtained in a sanatorium by a course of tuberculin containing both endotoxin and exotoxin administered when patients have ceased to react to the maximum amount of walking exercise and manual labour; in other words, when a certain degree of tolerance to exotoxin has been secured. At the dispensary, on the other hand, the muscular and respiratory movements of the patients are not under intelligent control. The patient is liable to show sensitiveness to auto-inoculation with the exotoxin of the bacillus, hence a degree of tolerance sufficient to steady the temperature must first of all be produced by a course of treatment with exotoxic tuberculin. The method of administration and frequency of dosage are a source of no little diversity of opinion. In my experience the most efficient and permanently beneficial focal result is obtained by inoculating the patient once a week and by gradually increasing the dose without the production of any marked general or focal reaction, 99° F. being regarded as the danger zone. It is true that if the doses are rapidly increased and reactions are ignored a high degree of toxic tolerance may be obtained, but this is secured at the

expense of tissue immunity, so that the last stage of the patient becomes worse than the first.

The following is the method of treatment with tuberculin which I have adopted.

At the Dispensary.

(*a*) A course of treatment with T.O.A. (exotoxic) until a certain degree of tolerance is produced.

The following doses are given every eighth day:

0.00001 c.cm., 0.00002 c.cm., 0.00003 c.cm., 0.00004 c.cm., 0.00005 c.cm., 0.000075 c.cm., 0.0001 c.cm., 0.0002 c.cm., 0.0003 c.cm., 0.0004 c.cm., 0.0005 c.cm., 0.00075 c.cm., 0.001 c.cm.

(*b*) When the dose of 0.001 c.cm. has been reached a course of treatment with tuberculin T.R. or new tuberculin W., both of which contain endotoxin and exotoxin of the human bacillus, is commenced. The cost of tuberculin T.R. is 8s. 6d. per c.cm., and the cost of new tuberculin W. 6s. per c.cm. The filtrates of the tubercle bacillus are much cheaper, and it is unfortunate that our views regarding the value of tuberculin preparations are no doubt influenced by their price. I employ new tuberculin W. in the following doses:

Immediately following 0.001 c.cm. T.O.A., 0.00005 c.cm., 0.000075 c.cm., 0.0001 c.cm., 0.0002 c.cm., 0.0003 c.cm., 0.0004 c.cm., 0.0005 c.cm., 0.00075 c.cm., 0.001 c.cm., 0.002 c.cm., 0.003 c.cm., 0.004 c.cm., 0.005 c.cm., 0.0075 c.cm., 0.01 c.cm., 0.02 c.cm., 0.03 c.cm., 0.04 c.cm., 0.05 c.cm., 0.075 c.cm., 0.1 c.cm. This is the maximum dose, and it is repeated at gradually increasing intervals.

The above course of treatment applies to well-marked types of the disease with evidence of slight phases of recurring or persistent auto-inoculation. I have not found it necessary or desirable to go above the maximum dose of 0.1 c.cm. of pure tuberculin.

In the Sanatorium.

In the sanatorium a course of treatment with exotoxic tuberculin is replaced in the majority of cases by treatment with induced auto-inoculation. The patient with an active tuberculous focus is thus led from a period of rest through the various stages of induced auto-inoculation to a full course of treatment with tuberculin containing both the endotoxin and exotoxin of the human bacillus. Part of this course will be commenced at the sanatorium, but it will usually be completed at the dispensary.

Elsewhere[2] I have described the excellent results obtained by a course of treatment with tuberculin T.R. following treatment with auto-inoculation, and I recommend in the sanatorium a course of new tuberculin W. in the following doses:

0.00001 c.cm., 0.00002 c.cm., 0.00003 c.cm., 0.00004 c.cm., 0.00005 c.cm., 0.000075 c.cm., 0.0001 c.cm., 0.0002 c.cm., 0.0003 c.cm., 0.0004 c.cm., 0.0005 c.cm., 0.00075 c.cm., 0.001 c.cm., 0.002 c.cm., 0.003 c.cm., 0.004 c.cm., 0.005 c.cm., 0.0075 c.cm., 0.01 c.cm., 0.02 c.cm., 0.03 c.cm., 0.04 c.cm., 0.05 c.cm., 0.075 c.cm., 0.1 c.cm. The maximum dose to be repeated at gradually increasing intervals.

It is desirable that, in the various districts which embrace sanatorium and dispensary in the scheme for dealing with tuberculosis, there should be some uniformity with regard to the method of administering tuberculin in the sanatorium and dispensary, so that when the patient passes from the sanatorium to the after-care of the dispensary there should be no marked cleavage in the methods of treatment.

Conclusions.

1. It is desirable that the various districts in which the machinery for the treatment of tuberculosis is being established a uniform system of treatment with tuberculin should be adopted.
2. It is especially desirable that the system of tuberculin treatment carried out in the sanatorium should correspond with the method adopted at the dispensary.
3. A short course of treatment with T.O.A., followed by a course of treatment with new tuberculin W., should form the basis of treatment at the dispensary.
4. A course of treatment by auto-inoculation followed by a course of treatment with new tuberculin W. or tuberculin T.R. should form the basis of treatment in the sanatorium.

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PROGNOSIS IN PULMONARY TUBERCULOSIS: THE RESULTS OBTAINED BY ARNETH'S METHOD.

BY J. B. H. HOLROYD, M.R.C.S.ENG., L.R.C.P.LOND.,

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THE prognosis in pulmonary tuberculosis is of vital importance both to the patient individually and to the health of a community. But to make a correct prognosis is in many cases very difficult, and in some almost impossible if physical diagnostic signs are the only guides available.

Arneth's method of blood counting offers, however, some solution of the difficulties encountered in this connexion. When he devised this method he took the neutrophilic leucocyte, which may have I, II, III, IV, or V nuclei, as the cell, and on this he made his count. He then assumed that the cells with I or II nuclei were less resistant than the cells with III, IV, or V nuclei, and that when those less resistant cells were present in large numbers the severity of the case varied directly as the number of these cells.

I adopted this method at the Sheffield Union Hospital, and applied it to 30 cases extending over a period of three months. The observations made on these cases suggested that Arneth was right, and that the prognosis varied inversely as the increase in neutrophiles having I or II nuclei.

The technique employed is as follows:

The specimen of blood is obtained in the usual way by pricking the finger and spreading the drop of blood thus obtained on a clean slide by means of another slide held at an angle of 45 degrees. The slides should be kept in a mixture of equal parts of ether and alcohol, and when required for use are wiped dry with a soft duster. The film of blood thus prepared is allowed to dry in the air, after which staining is proceeded with.

The stain used varies with different observers, and in this particular series of cases Jenner's stain was employed throughout. The slide is flooded with stain, which is kept on for five minutes and then washed off with water, dried and mounted in xylol balsam, care being taken to have an adequate quantity of stain to obviate the danger of the slide becoming dry. The slide is now examined microscopically, and $\frac{1}{12}$ in. oil immersion lens is used. If a larger lens is substituted it is very difficult to be sure of the number of nuclei in the cells. A movable stage should also be used in order to alter the position of the slide as easily as possible so as to avoid the accident of counting the same field twice; 100 neutrophilic leucocytes are then counted and classified according to the number of their nuclei.

The count is then compared with the normal one observed by Arneth, which has been used as the standard in all the results of this series of cases. The normal is as follows:

I.	II.	III.	IV.	V.
5 per cent.	35 per cent.	41 per cent.	17 per cent.	2 per cent.

It is noticed that in an unfavourable case there is an increase in the number of cells with I or II nuclei, and usually both I and II are increased; in other words there is a drift to the left. This drift has been present in all cases in this series.

The following examples are given:

1. A. P., aged 33. Physical signs definite and the patient ill. Tubercle bacilli numerous. The count showed on June 14th, 1911:

I.	II.	III.	IV.	V.
44 per cent.	31 per cent.	20 per cent.	5 per cent.	0 per cent.

Death occurred on August 10th, 1911.

2. P. R., aged 55. Patient ill. Cavitation present; tubercle bacilli also present. Count on June 19th, 1911, showed:

I.	II.	III.	IV.	V.
45 per cent.	40 per cent.	12 per cent.	2 per cent.	1 per cent.

Death on June 22nd, 1911.

3. G. E., aged 39. Patient ill, signs definite, and tubercle bacilli present. Count on June 26th showed:

I.	II.	III.	IV.	V.
20 per cent.	44 per cent.	29 per cent.	7 per cent.	0 per cent.

Death on July 1st, 1911.

4. A. H., aged 45. Signs definite; tubercle bacilli present.

I.	II.	III.	IV.	V.
51 per cent.	39 per cent.	8 per cent.	2 per cent.	0 per cent.

Death took place in four days after the count had been taken.

5. J. G., aged 28. Patient ill; signs definite.

I.	II.	III.	IV.	V.
6 per cent.	34 per cent.	16 per cent.	4 per cent.	0 per cent.

Death in ten days after the count.

6. B. J. G., aged 15. Signs definite and ischio-rectal abscess present, tuberculous in origin. Count taken June 14th:

I.	II.	III.	IV.	V.
33 per cent.	35 per cent.	25 per cent.	5 per cent.	2 per cent.

On September 8th patient appeared well. No temperature; abscess healed. Count gave:

I.	II.	III.	IV.	V.
12 per cent.	40 per cent.	42 per cent.	4 per cent.	2 per cent.

As the condition improved the drift to the left was not quite so marked.

The conclusions arrived at after the above observations were that in cases with an unfavourable aspect the cells with I or II or I and II nuclei were present in greater numbers than normally, and that as the improvement of the general condition takes place the drift to the left of the picture is not so marked; or in other words, the cells with I and II nuclei are not so numerous, and approach nearer the normal.

THE EPIGLOTTIC SUTURE: ITS VALUE IN INDIRECT LARYNGOSCOPY.*

By CYRIL HORSFORD, M.D., F.R.C.S.,
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The object of this brief communication is to draw the attention of the members of this Congress to the fact that the field of vision obtained by indirect laryngoscopy may be greatly improved by the passage of a suture through the epiglottis, and that this suture may now be rapidly and safely passed. The suture is recommended as a substitute, more efficient in all respects than the many forms of epiglottis lifters introduced to facilitate intralaryngeal inspection.

I am fully conscious of the enormous boon the direct method has become to laryngeal surgery, and many enthusiasts have entirely given up the indirect method for it. The time is therefore opportune for bringing forward a plea for the revival of the indirect method, supplemented by the suture.

The method is not new, but is a resuscitation of an old idea. I admit that in my first publication on this subject[1] I described it as original, as I could not at that time find any evidence to the contrary. Sir Felix Semon, however, drew my attention to previous work in this field when I demonstrated it at the meeting of the Laryngological Section of the Royal Society of Medicine of London in December, 1907.[2]

I propose to make no reference to the many varieties of instrumental epiglottic retractors which require the continuous use of the hand to hold the instrument in position. Whether that hand be one of the operator's or that of his assistant is immaterial, for such a method is obviously unsuitable or inconvenient in intralaryngeal operations.

Türck[3] published in 1866 a description of two instruments which he devised for the purpose of utilizing a thread as an epiglottis lifter. With the first a small hook with a thread attached, was inserted into the epiglottis, but the thread did not penetrate the epiglottis. With the second, however, a needle and thread were passed through the epiglottis and the thread was held by an assistant. This instrument was complicated and its use extremely difficult, largely owing to the fact that local anaesthesia by cocaine was not in use at that time. He further feared that the thread would tear through the epiglottis—a complication which can only be caused by great local unrest. It is no wonder, therefore, that the method fell into disuse. The great value of the principle was, however, recognized, and the instrument was modified and simplified by Schrötter and Tobold.[4]

Jurasz and Jelenffy[5] recommended the suturing of the glosso-epiglottic ligament instead of the epiglottis, and by this they lifted the epiglottis. Sir Felix Semon and Sir Victor Horsley,[6] in a series of experiments on dogs, passed a thread through the epiglottis in order to see better the interior of the larynx.

Dr. Gleitsman[7] of New York has devised an instrument which, from the illustration, appears to be very similar in principle to my latest pattern, and he has found it of great value in rendering possible both a correct diagnosis and an intralaryngeal operation.

The idea of using an epiglottic suture first occurred to me in July, 1906, when I adopted it in order to facilitate an operation of exceptional difficulty—namely, the excision of a very tough fibrous web which united the anterior halves of the vocal cords and extended some way down into the cavity of the larynx. The epiglottis was not overhanging, but I wished to get it out of the way because I was using a sharp-pointed Heryng's knife, followed by sharp punch forceps, and it was necessary to get the best possible view. I used a pair of Spencer Wells forceps, curved at the point, with which I held a small curved and threaded needle. With the aid of the laryngeal mirror the needle was pushed through the epiglottis from before backwards, the point being then caught by the forceps and drawn through. There was not much difficulty in passing the suture and not the slightest discomfort to the patient, who had already been thoroughly cocainized in preparation for the operation.

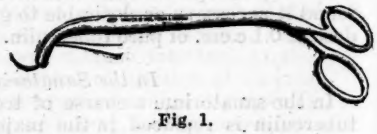

Fig. 1.

In the following year I used a needle-holder made to my design by Messrs. Mayer and Meltzer (see Fig. 1), its principle and use being as above described. This instrument was shown, and the method described and demonstrated on a patient, at the meeting of the Laryngological Section of the Royal Society of Medicine already referred to.[2] Soon after I still further simplified the method by the suture forceps shown in Fig. 2, which was made for me by Messrs. Mayer and Meltzer. It is a modification of Kurz's forceps used for the passage of deep sutures in pelvic surgery. This instrument and its use were demonstrated at another meeting in April, 1908.[8] The mechanism of the catch greatly simplified the passage of the suture. Though I have used it with complete success in a large number of cases, I have again modified and simplified it, and my latest pattern, which I call the epiglottic suture forceps No. 2, is the instrument which I now recommend (see Fig. 3); it may be obtained from Messrs. Mayer and Meltzer or H. Pfau, Berlin.

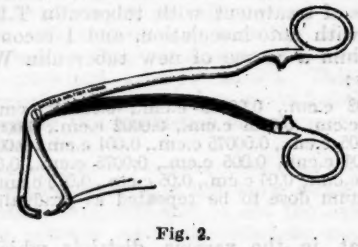

Fig. 2.

Fig. 3.

The successful use of either pattern depends, as in other intralaryngeal operations, upon the efficient preparation of the patient for local anaesthesia. Cocaine should be applied to both surfaces of the epiglottis and to the centre of the root of the tongue. It is as well also to apply a little adrenalin to the epiglottis to prevent the possibility of haemorrhage obscuring the field of operation. The needle is first threaded with a long piece of silk and placed in the proximal blade, and the whole carefully sterilized. With the aid of the laryngeal mirror, the

* Read at the Third Rhino-Laryngological Congress in Berlin, September, 1911.

forceps are introduced into the throat until the upper border of the epiglottis is seen to pass between the point of the needle and the distal blade, the blades are then firmly closed and then opened and the instrument withdrawn; it will be found that the suture has passed through the epiglottis. The ends are then brought over the centre of the tongue and gripped by a large pair of Spencer Wells or any similar forceps, and allowed to hang some distance below the jaw. The tongue is held for examination in the usual way, and it will now be seen that the epiglottis is held up against the root of the tongue by the weight of the forceps only and the intralaryngeal view greatly improved. On the occasions in which I have used this method the patients have neither strained nor coughed, and were not conscious of the presence of the suture so long as the effect of the cocaine lasted, though in some cases there were feelings of nausea, which, however, soon passed off. The use of the instrument entails no risk to the patient. The needle is held sufficiently firmly in the proximal blade to prevent it falling out before it is passed, and should it do so, it falls into the glosso-epiglottic fossa only, and is easily withdrawn by the thread, which is held in the hand. When the blades are closed it is firmly caught in the distal blade, and cannot be released until the instrument is withdrawn and the needle turned on its long axis to be liberated; there is, therefore, no risk of its falling into the cavity of the larynx. The epiglottis does not suffer by the passage of the needle, and I have never observed any inflammatory or other complication following it. The suture occupies no space in the mouth, and, unlike other epiglottis lifters, does not require the assistance of a third hand. It further helps to steady the larynx and increases the laryngeal illumination. Though the shaft of some laryngeal forceps may be used to pull the epiglottis forward during their use, it is a decided advantage to be independent of that action, so that the operator may be free to place the forceps in any position he desires, so as to prevent the shaft from hiding the point and obscuring the light.

I consider that the preliminary use of the epiglottic suture for facilitating intralaryngeal operations should not be limited to cases of obscured field of operation caused by a markedly overhanging epiglottis, but should be used in all cases where the epiglottis in any way hinders a delicate intralaryngeal manipulation, whether it be cutting or cauterizing, especially where a perfect vocal result is desired. This method may also be used simply for diagnosis, when other methods of lifting the epiglottis have failed. It may in a few cases be used without the aid of a laryngeal mirror, when it is found, on depressing the tongue, that the upper border of the epiglottis can be seen.

It is scarcely necessary to illustrate my remarks by relating cases in which I have adopted this method, the majority of them having been for innocent growths within the larynx, and these include ten vocalists, who are now singing successfully before the public. I would like, however to refer to one case, for it is the best illustration I have had of the value of the method.

The patient, a tenor vocalist, had been unable to use his voice effectively for four years because of a small fibroma situated on the upper surface of the right vocal cord, overhanging its edge and near the anterior commissure. The larynx was situated rather low in the neck, so that the vocal cords were not easily reached by the ordinary sized laryngeal forceps. This probably explains the fact that during three years numerous attempts by two expert laryngologists failed to remove the growth. These attempts included the use of many varieties of instruments, the direct method once under cocaine and once under chloroform. I succeeded at the first visit with a pair of Whistler's forceps, and my success was entirely due to the use of the epiglottic suture.

The best proof of the accuracy of this method of manipulation was the fact that two months after the patient sent me a press cutting of his successful appearance at a concert.

Since I brought the subject before the Laryngological Section of the Royal Society of Medicine of London I have had many encouraging reports from those of my colleagues who have used the method, and I should like to quote the experience of Sir StClair Thomson, who writes to me as follows:

I have used your epiglottic suture forceps (No. 1) on several occasions and always with complete satisfaction. I have found it most useful in cases of overhanging epiglottis where the growth was situated near the anterior commissure, a site where the use of the direct method is not so satisfactory as might be expected.

I know of several patients who have welcomed it as an agreeable alternative to the uncomfortable attitude created by the requirements of the direct method.

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CHEILOTOMY: A FUNCTION-RESTORING OPERATION IN CRIPPLING TRAUMATIC ARTHRITIS OF THE HIP-JOINT.

[WITH SPECIAL PLATE.]

BY

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THIS brief paper is to be regarded as a preliminary communication on an operative method which may prove to be of wide application in the treatment of chronic hypertrophic arthritis, especially if it be uniarticular and of traumatic origin. It is a record of the two first cases in which the method has been applied. Both were of traumatic origin, and in both the hip was the joint affected. In both, while flexion remained relatively free, the movements of abduction and rotation were lost, so that riding was impossible and walking was slow and difficult. In the first case continuous severe sciatic pain, dating from the accident, made the patient's life a misery to him.

Stereoscopic radiograms showed clearly that the principal obstacle to the movements of the joint in both cases was an osteo-arthritic lip or cornice around the head of the femur. It occurred to one of us (C. P. B.) that it might be possible to chisel away this lip sufficiently to relieve pain if not to restore a useful range of movement to the joint. An operation for this purpose was devised and successfully carried out, with functional results in both cases which up to the present have surpassed our expectations. The operation consists in opening the hip-joint and removing the cornice on the head of the femur, so far as it is accessible, by suitable bone-cutting instruments devised to work in a cramped space. On account of its technical difficulty the operation is somewhat prolonged, but in both instances shock has been absent and convalescence uneventful.

It will probably be found that this operation is applicable in other joints than the hip. It may, for instance, be of service in the knee-joint, using the same transarticular incision which has been employed by one of us for difficult fractures of the lower end of the femur.[1] A procedure so definite, and possibly of such wide application, appears to need a distinctive name. We suggest the name *cheilotomy* (χεῖλος, lip) as convenient.

So far as we have been able to ascertain, the operation of cheilotomy—at any rate, in the hip-joint—had not been performed prior to our first case in January, 1913.

CASE I.

Mr. J., aged 56, four years ago had a fall in the hunting field. His horse came down on the left side without dismounting him, so that his left hip was crushed between the ground and the horse's side. He managed to ride home, did not consult a doctor, and only lay up for three or four days. But from this time forward he began to suffer from severe left sciatic pain, which has gradually reduced him to a crippled condition. For the last two years he has been unable to ride.

He first consulted Dr. Preston Ball in July, 1911. He was then suffering from general rheumatism especially affecting the joints, but more especially the left hip-joint.

At times he was seized with most acute pain, not only in the left hip but in the lumbar region, and also in the shoulders and arms. Varied medical treatment had proved of no avail up to this time, and Dr. Ball gave him a course of inoculations with streptococcus vaccines at intervals of seven days, beginning with small doses of one million, and gradually increasing the injection up to fifty million, the last six being of a mixed vaccine containing along with the strains of streptococci the *Micrococcus rheumaticus* of Poynton and Paine. At the same time the patient was given suitable tonics, and ionic medication was adopted for the left hip. His condition greatly improved in a comparatively short time, his general health was better, and he could walk and play golf without pain, and in November, 1911, he appeared almost cured, the only trouble then being a little stiffness in the left hip.

For several months he continued to be free from pain, and was well in every way, but in September, 1912, the pain returned in the left hip and rapidly became worse, and it was only with great difficulty he could walk at all. Golf had to be abandoned. He consulted Dr. Ball again, and ionic medication was continued, but the hip-joint continued to give him great trouble, and a skiagram of the joint showed distinct osteo-arthritis, with considerable "lipping" around the acetabulum. An abnormal bony outgrowth, shaped like a canine tooth, could be seen projecting from the lower margin of the articular surface of the head of the femur, immediately in front of the sciatic nerve. The patient now consulted Mr. Handley with a view to the removal of the bony lipping of the femur. A stereoscopic radiogram showed that the tooth-like projection was directed downwards and forwards, not downwards and backwards as had been assumed, so that it could not press on the sciatic nerve. But it also showed other outgrowths (see Fig. 1) surrounding the margin of the head, some of which might be pressing on the nerve, and it seemed right to attempt the systematic removal of the lip so far as it could be reached. An element in this decision was the patient's helpless condition, for he had given up walking altogether, except for the shortest distances, and with a painful effort. Moreover, a resort to sedatives had become inevitable, and even morphine had been necessary on many occasions.

Prior to operation he was seen by Dr. W. H. Willcox, who allows us to quote the following extract from his notes made at this time:

The patient was seen by me on January 9th, 1913. He had had during the past few years spa treatment at Droitwich and Buxton and all the usual forms of medicinal treatment. On examination it was found that the only joint affected was the left hip. There was deficient movement of flexion and extension, but there was some range of free movement in this direction. The lateral movement was very deficient, and any attempt at circumduction gave considerable pain. As there was no evidence of any acute inflammatory condition of the hip-joint, and as no other joints were affected, and as the *x*-ray examination showed bony changes which no medicinal treatment could possibly affect, I advised operative treatment.

It may be added that all the muscles of the left lower limb were flabby and atonic from disuse. There was no definite tenderness along the course of the sciatic nerve, and pain was felt in the front of the thigh as well as at the back. Actual sciatic neuritis could therefore be excluded.

Operation.

On January 13th, 1913, the operation was carried out, and abduction and external rotation at the close of the operation were found to be restored to a large extent. By the tenth day the wound was soundly healed. During the first two or three nights morphine was necessary, more on account of restlessness and the tedium of a fixed position than for actual severe pain. By the fourth day the patient was entirely free from the pain which had made his life a misery for years. Slight rotation of the joint caused no uneasiness. Passive abduction was begun gently on the fourth day, it was free without the use of any force whatever. By the twentieth day the patient was allowed to get up and sit in a chair. A day or two later he was permitted to stand, and to walk about wearing a temporary apparatus supplied by Mr. G. Ernst to limit the movements of the hip and prevent undue strain on the sutured capsule. He left the home on the twenty-fifth day absolutely free from pain, and with a large range of abduction and external and internal rotation in the joint.

To illustrate the patient's relief after the operation it is permissible to quote from a letter to one of us just before he left the nursing home: "I feel a different man, and am only too thankful I came and saw you."

Before returning to Ireland he was seen by Dr. A. P. Luff, who in reply to a recent letter respecting the case writes:

I saw him with you on February 6th, and the notes that I have with regard to his examination are that there was extremely good mobility of the joint as regards internal and external rotation and abduction. I think the result of your operation is an extremely satisfactory one.

He has been seen by Dr. Ball on two occasions since his return home. His general condition has greatly improved, and he can walk quite well. Both external and internal rotation appear to be normal. He is greatly pleased with the results of the operation, and the improvement is well maintained up to the date of writing (April 9th, 1913).

CASE II.

Major A., aged 62, was sent to Mr. Handley by Dr. Preston Ball on March 26th, 1913, for traumatic arthritis of the left hip with increasing fixation of the joint and difficulty in walking. The patient is a healthy man, looking much less than his age, and has lived an active outdoor life, first in the cavalry and since his retirement in sports and country pursuits. For some years the condition of the hip has prevented him from riding, though until recently he has been using a bicycle. Walking has become a slow and laborious process, though it is not painful. The patient felt his increasing disabilities keenly since they cut him off from his principal active interests, and he was quite willing to undergo an operation if there was any prospect of improvement.

Twenty-two years ago, as the result of a fall in a steeplechase, he damaged his left hip. After treatment of several weeks by his local doctor in Carlow, who "fired" the joint, he came over to Dr. Wharton Hood. The treatment was so successful that fourteen days later he was able to begin riding. For many years after this the joint does not appear to have troubled him very much, but in 1904, after a critical attack of double pneumonia, the hip began to stiffen.

In 1910 the situation was becoming serious, and he underwent a course of manipulations and fomentations. Last summer he went to Aix and had baths and exercises. He noticed that passive movements of the joint did not produce any improvement, and left it rather painful. He consulted Dr. Preston Ball in October, 1912. Dr. Ball noted that the history was similar to that of Case I, and that the pain and loss of power were confined to the hip-joint, his general health being quite good. It was agreed from the first that he should consult Mr. Handley with a view to operation; but in the interval between October and March he had ionic medication and electrical massage, which possibly gave him slight relief, though there was no marked change or improvement. An ordinary skiagram showed distinct overgrowth of bone around the hip-joint.

He was first seen by Mr. Handley on March 27th, 1913. The great trochanter on the left side was about ½ in. higher than on the right side, the left thigh was 1 in. less in circumference than the right, and the left calf ½ in. less than the right. The movements of the spine were good though perhaps slightly limited. There was no grating in any of the joints, except in the right shoulder-joint, where slight crepitus was present, probably the result of an accident which fractured the right clavicle. Flexion of the right hip was free, but flexion of the left hip was very limited. Rotation of the left hip was practically absent, while that of the right hip was free. Abduction of the left hip was entirely absent, while on the right side it was nearly normal.

The patient stated that his doctor at Aix considered bony ankylosis to be present in the left hip. While this statement is difficult to explain in view of the amount of flexion, it emphasizes the fixity of the joint as regards rotation and abduction. In contrast to Case I, the patient had suffered hardly any pain, and it was entirely on account of disability that he desired relief.

A stereoscopic radiogram, taken by Mr. Coldwell (Fig. 2), showed exuberant lipping surrounding the whole of the head of the femur. Judging by this alone, the case seemed extremely favourable for cheilotomy. There were, however, other changes in the joint, namely, some bony deposit round the acetabulum, apparently in the capsule, and a disappearance of the cartilage interval over the convexity of the head of the femur, showing that in this situation cartilage had disappeared. These changes, however, were not sufficiently marked to contraindicate operation. A stereoscopic radiogram of the right hip showed some similar changes, but in a very early stage. Dr. W. H. Willcox confirmed Dr. Ball's opinion that the patient was medically sound, and allows us to quote as follows from his notes:

The patient was seen by me on March 28th, 1913. I found him a thin, spare, muscular man who was perfectly sound and fit except for lameness arising from the left hip. He walked very

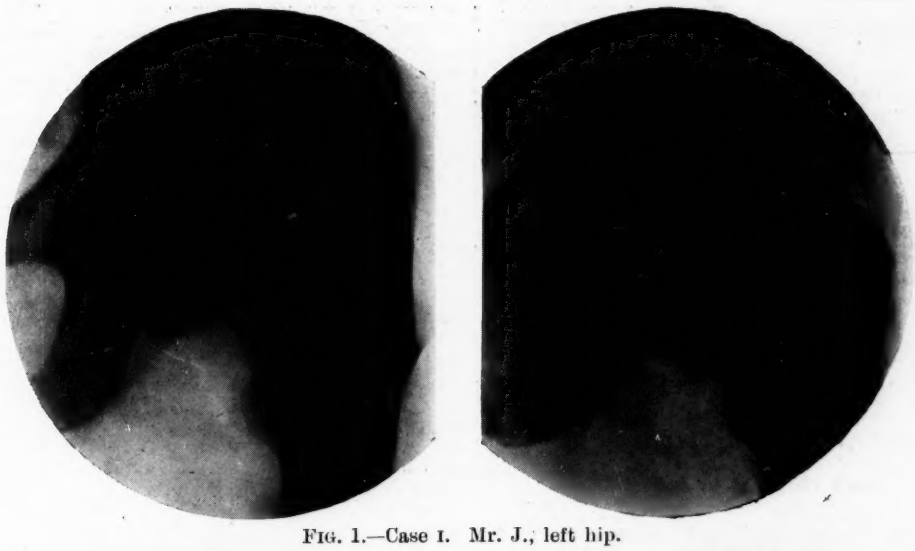

FIG. 1.—Case I. Mr. J., left hip.

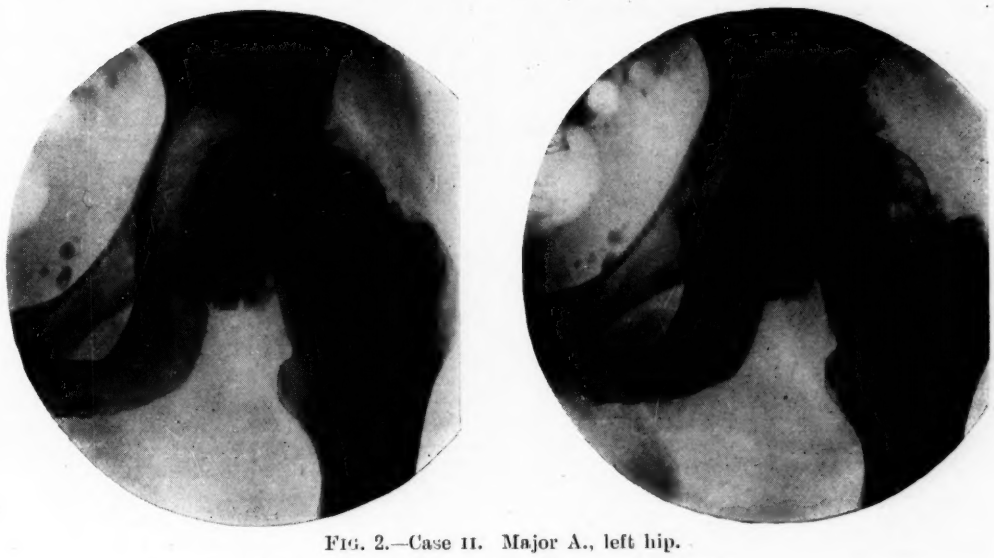

FIG. 2.—Case II. Major A., left hip.

Figs. 1 and 2 should be viewed through a stereoscope.

FIG. 3.—Case I. The fragments of the portion of the femoral lip removed by operation. Natural size.

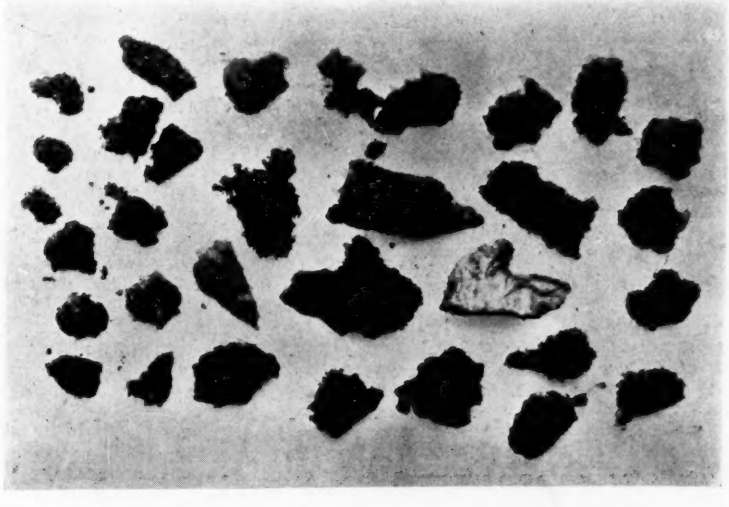

FIG. 4.—Case II. The fragments of the portion of the femoral lip removed by operation. Natural size.

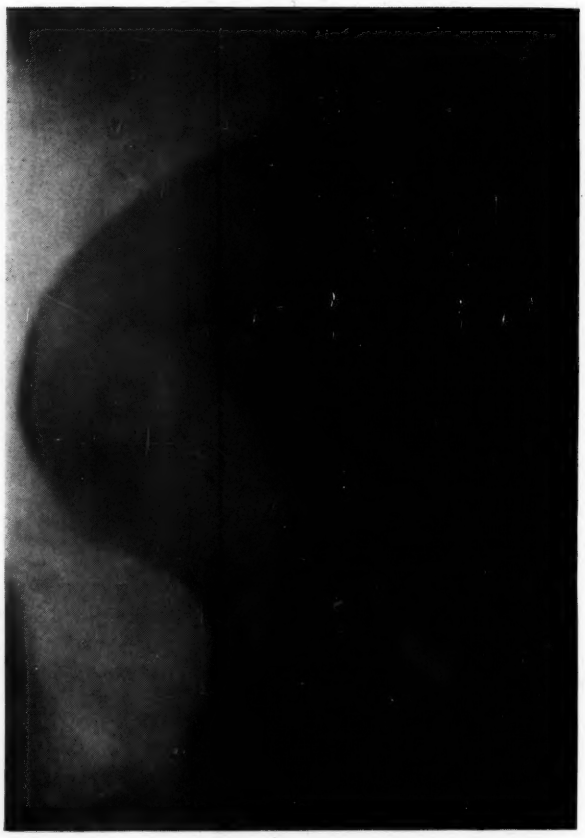

FIG. 1.—Skiagram.

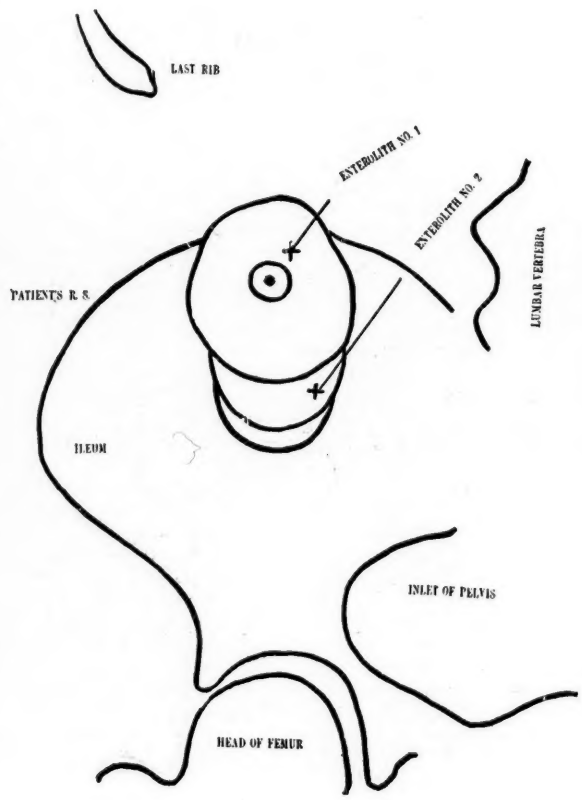

FIG. 2.—Diagram of Fig. 1.

FIG. 3.—Enterolith No. 1.

FIG. 4.—Part of enterolith No. 2. The portion in the caecum had to be crushed to facilitate removal.

lame, and experienced pain in walking. All the joints were practically normal except the left hip. The left hip showed great impairment of movement. There was only slight flexion, about 10 degrees, and very little lateral movement was possible. The *x*-ray examination showed very marked lipping, and bony changes round the left hip-joint. The patient had had all forms of medicinal treatment and had visited various spas without any benefit. As it was obvious that medicinal treatment could not improve or affect the marked bony changes round the left hip-joint, and since there was no inflammation round the joint, and no other joint was affected, I advised surgical treatment.

Operation.

On March 30th the operation of cheilotomy on the left hip was performed through a posterior incision in the capsule, securing free rotation and a considerable amount of abduction. The operation proved to be more difficult than in Case I, mainly on account of the bony deposit in the capsule at the margin of the acetabulum. The bony lip round the margin of the head of the femur was removed for a considerable portion of its circumference, and the capsule was sewn up.

On the evening of the day of operation the patient was quite free from pain, and he is making an uneventful convalescence. There seems every prospect that the result in this case will be just as satisfactory as in Case I, for abduction and rotation already, only ten days after the operation, are free and painless, though there is more tendency to muscular spasm than in Case I.

[Dr. W. H. O'Meara of Carlow writes on April 26th: I saw Major A. yesterday, and must congratulate you on the great success of your operative treatment. He can walk about with comfort, and can rotate, extend, and abduct the leg freely.]

It is probable that the restoration of movement produced by cheilotomy, while depending mainly upon the removal of actual bony obstacles to rotation and abduction, is also due to another cause. The head of the femur is unduly large and the capsule is consequently stretched, and does not possess that reserve of "slack" which is necessary to allow a good range of movement. The restoration of this "slack" by the operation is an important factor which must not be lost sight of.

May we, in conclusion, utter a word of warning against the indiscriminate application of the operation in unselected cases. For cases where the constitutional or toxic element of osteo-arthritis predominates, the method is obviously unsuited, and other methods of treatment, including the vaccine treatment, of which one of us has made a special study,[2] should always be tried. Nor should the operation be undertaken save under the best conditions, with ample assistance, with all possible aseptic precautions, and with the essential preliminary of a good stereoscopic radiograph of the joint.

The best and most suitable cases are probably those in which medical and vaccine treatment has improved the patient in relation to his or her general health and where the smaller joints (probably those most recently affected) have improved, but the one joint shows distinct osteitic changes as described.

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A CASE OF ENTEROLITHS.

[WITH SPECIAL PLATE.]

BY

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AN *x*-ray photograph of enteroliths *in situ* must be comparatively rare. In fact, I can find no evidence of any such having been recorded. The main factors responsible for this appear to me to be: (*a*) Intestinal concretions are distinctly uncommon.[1] (*b*) In many cases the symptoms are so insidious in their onset and of so long duration that medical aid is summoned only when there is evidence of intestinal obstruction, and the diagnosis is made when the abdomen has been opened. (*c*) Only recently has *x*-ray examination become a routine method in abdominal diagnosis.

The case is that of J. O., a ploughman, aged 39, seen by me with Dr. Gowans of Broughty Ferry on July 23rd, 1912. Except for seven years, when he was working in an oilcake factory, he has followed this employment since the age of 13. His habits have been regular and he has had no other illness. The history was that for the past eighteen years he had been subject to attacks of colic in the right iliac region, varying in duration from a few minutes to half an hour, and recurring generally three or four times a month. They commenced with distension of the lower abdomen, associated with gradually increasing discomfort till the pain suddenly began to diminish and the indisposition culminated in complete relief followed by the passage of a large quantity of flatus. He had also had flatulence not associated with pain. The bowels had been fairly regular, but he had had occasional attacks of diarrhoea followed by constipation. There had been no vomiting and no urinary symptoms. During the last month these attacks had increased in frequency and severity, and had been accompanied by marked anorexia and slight loss of weight.

On examination, the teeth were good and his tongue clean. An irregular tumour of stony hardness and about the size of the fist was felt in the right iliac fossa. It was fairly mobile, and gave the impression of being intimately connected with the caecum. I was unable to feel it by the rectum. He was advised to go to hospital for *x*-ray examination and probably exploratory operation, but delayed till his general health began to suffer and his discomfort increased.

He was admitted to Dundee Royal Infirmary on August 20th, 1912. His condition on admission was very much as above noted but with a general aggravation of all symptoms and somewhat severe intestinal stasis; the tumour was less movable.

The *x*-ray photograph reproduced was taken by Dr. Pirie, and gave the foundation for definite diagnosis.

On August 22nd, under chloroform, I opened the abdomen through the right rectus (Battle's incision). The lower portion of the ileum was found to be very much increased in calibre, and its walls markedly hypertrophied. The tumour consisted of two portions, the larger fixed at the ileo-caecal valve, the other free in the lumen of the ileum some 5 in. from its lower end.

The smaller concretion was removed with ease through an incision in the longitudinal axis of the gut. The portion of bowel containing the second calculus could not be brought up to the abdominal wound, so it was deemed expedient to pack off the general peritoneal cavity and attempt removal through the same intestinal opening. This enterolith was roughly hourglass-shaped, and impacted at the valve, and the caecal portion had to be broken down and the mass delivered with a large stone forceps. The bowel was closed with Lembert sutures.

Convalescence was uneventful, and the patient was discharged well on September 20th. He is now nearly 2 st. heavier than before the operation.

The specimens* look like pieces of compressed felt.

(*a*) The smaller, which was wedge shaped, with two large facets, measured 16×14 cm. in circumference.

(*b*) The larger showed no facet, and measured 19½×24 cm. (the last measurement is approximate, owing to damage in removal). The capsule and nucleus, which were well marked in the skiagram, were found chemically to consist mainly of calcium phosphate, while the intervening material appeared to be mostly faecal and vegetable matter bound together by fine hair-like substance. Since removal they have lost quite half their weight.

The case is interesting mainly from the following points of view:

(*a*) The large size of the concretions.

(*b*) The fact that these, though situated at what is normally the narrowest portion of the gut, did not give rise to more marked obstructive symptoms.

(*c*) The duration of the symptoms without disturbance sufficiently grave to necessitate medical attention at an earlier date.

(*d*) The extreme value of *x*-ray examination in arriving at a correct diagnosis.

Two points of interest noted in the history were that porridge had been one of his most frequent articles of diet,

* The specimens were shown at a meeting of the Forfarshire Medical Association, November, 1912.

and that he very frequently bit hairs from his moustache and swallowed them.

The patient was again referred to me in March, 1913, with a breaking-down tumour situated about the middle of Scarpa's triangle on his right leg. I excised it and found it to be a spindle-celled sarcoma growing from the superficial fascia.

His general condition is excellent.

REFERENCE.
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REMOVAL OF INTRATHECAL TUMOUR FROM LUMBAR REGION OF SPINAL CORD.

BY

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and

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THIS case illustrates the symptoms produced when a tumour compresses both the upper roots of the cauda equina and the spinal cord itself, and affords another instance that these intrathecal growths are so often single and non-malignant.

HISTORY.

The patient was under the care of Dr. Harvey Bird, of Bridgwater, who recognized the nature of the case, and sent her to the Bristol General Hospital. She was married, aged 52, had had six children, and had enjoyed good health until the present illness; there was no suspicion of syphilis.

ORDER OF SYMPTOMS.

Towards the end of 1909 she began to suffer from "rheumatic pains" in the right thigh, which henceforth recurred at gradually decreasing intervals. In 1912 the pains became worse, they were sharp and shooting in character, from the hip down into the leg and foot, and the right leg became weak. In April, 1912, the pains greatly increased; she also felt "pins and needles" in the toes, and increasing numbness and loss of power in the whole limb. By May the right leg was paralyzed, and from this and increased pain she could no longer get about. At the end of May shooting pains were also felt in the left leg, though not so severe as in the right, and were accompanied by numbness and gradually increasing loss of power in it. She also suffered from pains in the back, and a feeling of tightness around the lower abdomen.

At the end of July, 1912, there was paraplegia; she was unable to walk or stand. For a fortnight during August she had retention of urine, but recovered control of her bladder under use of the catheter; from this time, however, she was liable to occasional incontinence. Bowels constipated. Severe pains continued until admission to Bristol General Hospital on September 7th.

CONDITION ON ADMISSION.

She was well nourished, but had a drawn, haggard expression. She was completely paraplegic and moved or turned herself in bed with the greatest difficulty. Passive movements of the lower limbs caused great pain, especially at the joints. She complained so constantly of great pain, when moved or touched, that it was both difficult to examine her or to do anything for her; possibly she was unnerved by the pain she had suffered, which had necessitated morphine injections. She slept badly. The thoracic and abdominal organs were normal. The urine was normal. The cranial nerves, upper extremities, and trunk muscles were entirely unaffected.

Motor Symptoms.

The right lower extremity could not be moved at all in any part of it; she could draw up the left thigh a little way and bend the left knee slightly, but these were the only movements possible in this limb.

The paralysis was of the flaccid type; there was double foot-drop and the toes were flexed.

The anterior thigh muscles were not wasted, except from disuse. There was marked wasting of all muscles below the knees in both legs, predominating in the tibialis anticus, peronei and extensors of feet, more marked on the right than on the left side, though the circumference of each calf measured the same. The glutei and hamstring muscles were also wasted.

Electrical Reactions.

Diminished reaction to both electrical currents was present in both quadriceps extensor muscles, especially the right, and in the glutei and hamstring muscles. Reaction of degeneration was present in tibialis anticus, peronei, extensors of toes, calf muscles, and plantar accessorius. The peroneal nerves reacted very feebly to the faradic current; to the constant the formula for the right nerve was KCC=0, ACC=20 milliampères, and for the left KCC=10 milliampères, ACC=8 milliampères.

Sensory Symptoms.

The sensory affection is shown on the chart (Fig. 1). Apparently the border of loss of sensation to cotton-wool

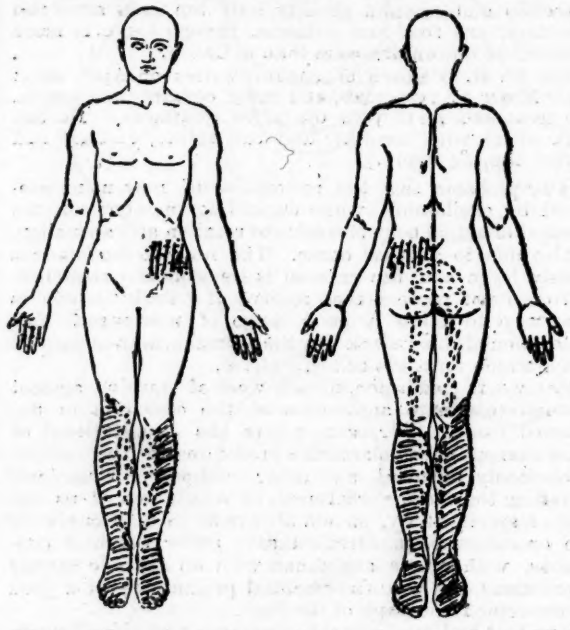

Fig. 1.—Loss of sensation to touch, pain, and temperature; dotted area, defective sensation to touch, pain, and temperature; ill-defined band of hyperaesthesia.

and pin-prick was coterminous. The loss to heat and cold was absolute over the affected areas, whilst there was diminution of sensation to pressure over the same distribution. Both feet felt very cold to the touch. There was also some loss of the sense of position of the limbs; she had constantly a feeling that her legs were floating in the air and not lying on the bed. There was an indefinite zone of hyperaesthesia on the left side in the lower lumbar or upper sacral and lower abdominal regions.

The chart gives the result of a number of observations on the sensory changes, and can be regarded as approximately correct; she was a difficult patient on whom to make any investigations of this kind.

Reflexes.

Abdominal present and normal. Plantar absent or (?) feebly flexor on strong stimulation.

Knee-jerks and ankle-jerks present. Right knee-jerk active. Marked ankle clonus on right side, not on left; no knee clonus. The bladder was not distended; there was occasional slight incontinence of urine, which seemed partly due to inadvertence, as she was not always aware of it; she could not hold her water for more than an hour at a time. There was no anaesthesia of bladder or rectum. The anal sphincter contracted normally.

There were no trophic lesions of the limbs, and no actual bedsores; but on admission the skin over the sacral and lower lumbar regions of the back was in a very unhealthy state and on the verge of breaking down.

X-ray examination and lumbar puncture showed the spinal column and cerebro-spinal fluid to be normal.

Diagnosis.

From the above signs the diagnosis of an extramedullary tumour at the level of the fourth and fifth lumbar and first sacral roots, chiefly on the right side, was made and operation advised.

The operation had to be considerably delayed until the skin of the back could be got into a more healthy condition, which was a matter of some difficulty.

Operation.

On October 15th, 1912, Mr. C. A. Morton removed the laminae of the eleventh and twelfth dorsal and the first and second lumbar vertebrae. When the dura mater was thus exposed it was seen to be pushed backwards, and on splitting it up the cord was found also pushed backwards, so that it lay closely pressed against the dura mater sheath, and the latter had to be divided with great care, so as not to cut into the underlying cord. When the lumbar enlargement of the cord was exposed, it was seen to be not only pushed backwards, but also much flattened and spread out, on a plum-coloured, smooth tumour lying anterior to it and chiefly to the right side. There was a free escape of cerebro-spinal fluid as soon as the dura mater was exposed. The growth lay opposite the body of the twelfth dorsal vertebra; it was about an inch in length, and seemed to fill the anterior part of the spinal canal. By means of the flat end of a small probe some very delicate connexions of fine membrane between the front of the cord and the tumour were broken down, and the cord was then lifted off the tumour, and gently drawn to one side. Some very loose connexions of the tumour with the dura mater sheath in front were then easily torn through with the probe, and the tumour readily enucleated. It was not necessary to divide any nerve roots in order to remove the tumour, as in this part of the cord they all pass obliquely downwards, and those underlying the tumour were turned aside with the cord. The tumour was very soft, of a pink colour, and about the size of the part distal to the last joint in an average-sized middle finger. After its removal the cord fell back into the canal. The dura mater was closed with a continuous suture of fine silk. This prevented any leakage of cerebro-spinal fluid, which was evidently distending the sewn-up sheath at the completion of the suturing. There was practically no bleeding within the spinal canal. The mass of muscle and aponeurosis reflected from the laminae, before these were removed, was brought together over the gap in the spine. No drain was employed. She did not suffer from shock.

The muscles united firmly across the gap in the spine, and the skin wound was soundly healed a fortnight after the operation. There were no signs of any inflammatory changes in the spinal membranes during the healing of the wound.

Nature of Growth.

Microscopical examination of the growth showed it to be a soft fibroma. No other tumour could be found, and its large size accounted for the wide extent of the symptoms, and its situation, chiefly anterior to the cord, for their roughly symmetrical character.

After-History.

She made a good and uneventful recovery from the operation.

On October 23rd, she had recovered power over the bladder, could move the left leg and toes, and flex the right knee. She could feel a light touch over both thighs and legs, but imperfectly over the calf of the leg, and not at all over the feet, and a pin-prick over the right leg, but not over the left. The right ankle clonus was still present, and a flexor plantar reflex was present on each side. At the end of another week there was further gain of power, especially in the left leg. She looked well, and had greatly improved in appearance, although she still complained of much pain. She had no more morphine after this time. She insisted on going home—a journey of 35 miles—early in November. Her friends found it, however, impossible to nurse her at home, so she returned to the hospital on November 18th.

Two months after operation the condition of sensation was: Pain (pin-prick) felt over whole posterior surface of both buttocks, thighs, and legs, but defective, often felt as touch only, over front of thighs, legs, and dorsum of right foot; normal over dorsum of left foot. Sensation to light touch (cotton-wool) defective over areas shown in Fig. 2; localization was defective over right leg and foot; pressure was felt everywhere, but distinctly unpleasant on right leg and thigh. This defect of sensation in the areas of the third lumbar and increased loss in those of the fourth lumbar roots on the right side had appeared since the operation, and probably represented a slight but unavoidable bruising of these roots in holding them aside in order to deliver the tumour from under the cord. To the same cause is to be attributed a decrease of the right knee-jerk, and almost complete loss of response of the right quadriceps extensor to both faradic and constant currents after the operation.

By this time she had regained power over her bladder, and could hold her water for several hours; the unhealthy condition of the skin had entirely disappeared, and the feet and legs no longer felt cold.

Without going into details, the further history of the case was one of steady but slow recovery of sensation and

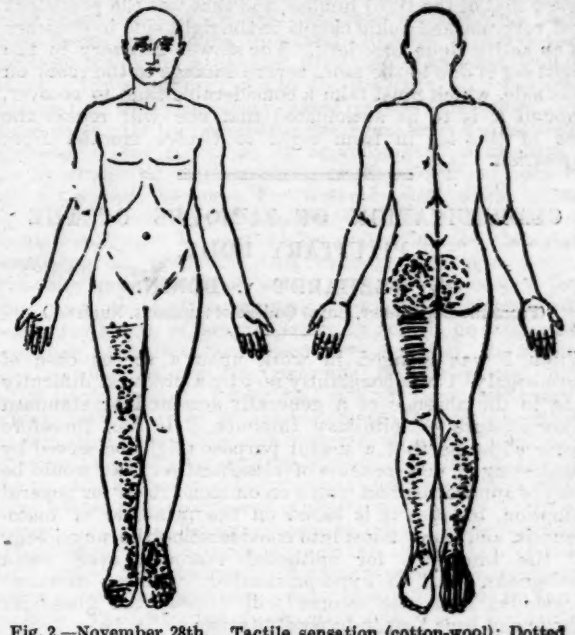

Fig. 2.—November 28th. Tactile sensation (cotton-wool): Dotted area, defective; ≡ absent; ||| hyperaesthesia to cotton-wool.

of muscular power. Recovery was much more rapid in the left than in the right leg, owing to the more extensive damage done by the pressure of the tumour to the spinal cord and roots on this side.

She made up her mind to go home again early in January, 1913, and left the hospital on January 14th, three months after operation. Her condition then was that she could sit up in bed and in a chair quite well, and had recovered power in the left leg; lying in bed, she could raise it in the air and move it freely in all directions; she was not able to stand alone, but with help she could almost gupport her weight on the left leg. The wasted muscles had filled up very much, and reacted normally to faradic and constant currents.

Right leg: Recovery in this limb had not proceeded so far; there was still foot-drop; she could move the toes and flex and extend the foot; there was feeble flexion of the knee and hip, but this was all. The muscles of this limb were still much wasted and many of them tender; they only reacted feebly to a very strong faradic current; they reacted to a constant current of 8 to 10 milliampères. ACC = KCC, with the exception of the quadriceps extensor, which hardly reacted at all. The knee-jerk was present; ankle clonus still continued to be marked. The reflexes in the left leg were normal.

Sensation to touch and pain had returned over the sacral region and over the whole of the left lower extremity, but over the right, although improved, was still somewhat defective; and over the back of the right

thigh and leg a touch was disagreeable (protopathic sensation); sensation to heat and cold normal except over the front of the right thigh.

Dr. Bird reports that on March 25th—five months after operation—sensation over both legs is normal, the left leg has recovered, and she can support her full weight upon it; there is still right foot-drop, but she can move the right foot and toes, and can extend the right knee, so that steady recovery is proceeding in this limb also. She can sit up, and has not had any morphine.

The history of the case with the severe root pains increased by moving the limbs, the muscular wasting, the reaction of degeneration in the muscles, the distribution of tingling, and loss of sensation—the latter so far as could be made out of posterior root type—in certain root areas together with slight affection of the bladder, pointed to a lesion chiefly on the right side and affecting certain roots of the cauda equina high up. There was one symptom, however, which definitely indicated that the spinal cord was also involved from pressure, and not only aided in the diagnosis of the side of the tumour, although this was clear enough from the predominance of sensory and motor troubles in the right leg, but also of the main position of the tumour as above the origin of the first sacral root and below that of the third lumbar, and that was the persistent and very marked ankle clonus on the right side in presence of an active right knee-jerk. The slower recovery in the right leg is due to the more severe damage to the roots on this side, which must take a considerable time to recover, though it is to be anticipated that she will regain the use of this leg in from eight to twelve months from operation.

CLASSIFICATION OF TUMOURS OF THE PITUITARY BODY.

By GERHARDT v. BONIN.

(From the Laboratory, Royal College of Surgeons, England.)

WHEN I was engaged in work upon a recent case of acromegaly[1] I was constantly met by a practical difficulty due to the absence of a generally accepted or standard nomenclature of pituitary tumours. It has therefore occurred to me that a useful purpose might be served by suggesting a new scheme of classification that would be easy of application and might recommend itself for general adoption, because it is based on the principle of histogenesis, and thus takes into consideration the physiology of the tumours; for epithelial tumours, even when malignant, lead to hyperpituitarism, whereas tumours developed from the stroma will destroy the glandular tissue and thus lead to hypopituitarism.

The following scheme differs in some important respects from that published by Roussy and Clunet,[2] and it is hoped that for the reason above explained it will afford a still better basis of classification.

I. *Heterotopic Tumours.*
1. Tumours of the cranio-pharyngeal duct.
2. Teratomata.

II. *Homoiotopic Tumours.*
1. Epithelial tumours:
   (*a*) From anterior lobe — Chromophile / Chromophobe / Combined — Cubic cell adenoma. Round cell adenoma.
   (*b*) From pars intermedia — Carcinoma.
2. Tumours developed from connective tissue:
   (*a*) From anterior lobe and pars intermedia — Fibroma. Sarcoma.
   (*b*) From posterior lobe ... ... — Glioma.
3. Mixed tumours ... ... — Fibro-adenoma.

I. The group of heterotopic tumours comprises those which develop from a tissue normally not present in the pituitary.

1. Tumours of the cranio-pharyngeal duct were first recognized as such by Erdheim[3] eight years ago. They arise from *Anlagen* of the epithelium of the duct which are frequently met with in normal pituitaries and which have been developed from the ectoderm of the buccal cavity. They consist of squamous epithelium, often containing *Schichtungskugeln*. They occur in the infundibulum or in the pars anterior of the hypophysis and are either benign or malignant. Erdheim collected a number of cases from the published literature which were described under different names, some of them as adenomas, but which really belonged to the category of tumours of the cranio-pharyngeal duct.

2. Teratomata in the pituitary are rare, but great importance has been attached to them by some authors, especially by Marburg.[4]

II. Homoiotopic tumours arise from a tissue normally present in the gland.

1 (*a*) According to Courtellemont[5] the following features are characteristic of the epithelial tumours of the anterior lobe:

1. A tendency towards the development of a single cellular type.
2. Rarefaction or entire disappearance of interlobular connective tissue.
3. Diminished disposition of the cells to arrange themselves in acini.

The first characteristic holds good for most pituitary tumours, although it is to be remembered that some cases have been described in which both kinds of cells were present in the new growth.

Three types of glandular tumours can be distinguished: Chromophile, chromophobe, and combined; each type may deviate more or less from the normal structure of the gland—that is, it may be more or less degenerated. Adenomas with cubical cells approximate most closely to the original glandular structure, so closely, indeed, that some authors designate them as struma of the hypophysis. The cells are still arranged in acini, which, however, are larger and more irregularly disposed, and contain less connective tissue than is the case in the normal gland.

If these tumours begin to degenerate the glandular structure is almost completely lost, and the cells are grouped round the blood vessels, which are mostly sinusoidal capillaries. The specific cells are slightly smaller than the cells of the adenoma. At the same time they assume a round shape. Hence these tumours are described in the scheme as round cell adenomas. Clinically these tumours should be regarded as benignant. Malignant tumours seem to have the same histological appearance; they can only be distinguished by their behaviour in forming metastases. The germs from which such metastatic tumours arise are carried not only by the blood stream, but also by the cerebro-spinal fluid. Malignant tumours of the pituitary are, however, extremely rare. If the histological examination of an extirpated tumour reveals a tumour possessing the features just described, it will in the vast majority of cases be a round cell adenoma, which permits a good prognosis.*

(*b*) Tumours of the pars intermedia appear to be rare. Those tumours described as glandular tumours of the posterior lobe seem really to have developed from the pars intermedia, the cells of which normally show a tendency to proliferate into the pars nervosa.

2. The tumours developed from connective tissues in the pituitary exhibit the same feature as those formed in other parts of the body.

3. The term "fibro-adenoma" is proposed for the mixed tumours first described by Zak,[7] in which the stroma, instead of being rarefied, has undergone considerable increase. These tumours are said to be a sign of diminished glandular function; they have never been found to be associated with acromegaly, but only with degeneratio adiposo-genitalis.

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* These "round cell adenomas" are often very similar to sarcomas, so that the differential diagnosis can be extremely difficult. Sarcomas, however, are very rare; most sarcomas of the literature are really adenomas. Von Eiselsberg[6] has recently published his cases of pituitary tumours; in his paper will be found some instructive illustrations of the histological appearance of these tumours.

THE estate of the late Dr. Henry William Cross of Whitley has been declared at a net value of £17,993. Dr. Cross, who became M.D.Durh. in 1886, was formerly in practice at Newcastle.

Reports
ON
MEDICAL AND SURGICAL PRACTICE IN HOSPITALS AND ASYLUMS.

WESTMINSTER HOSPITAL.

A CASE OF CAESAREAN SECTION UNDER SPINAL ANAESTHESIA.

(Reported by KAYE F. RASHELL DAVISON, Resident Obstetric Officer.)

THE patient in the following case—a primipara, aged 26—was admitted to the medical wards on December 27th, 1912.

She had had two attacks of rheumatic fever—the first at 10 years of age, the second five years later—and had developed valvular lesions of the heart—namely, double mitral and double aortic. The heart was much enlarged, and she was slightly cyanosed and dyspnoeic, but there was no oedema of the legs or elsewhere.

In view of the condition of her heart and the fact that she was eight and a half months pregnant (last menses May 16th, 1912), and a primipara, Dr. Purves Stewart, in whose ward she was, advised her to avoid the strain of labour by undergoing the operation of Caesarean section after the administration of a spinal anaesthetic. To this she consented, and the operation was performed on February 8th, 1913, by Dr. Drummond Robinson. He was assisted by Dr. Stanley Dodd, while the spinal anaesthetic was administered by Dr. Purves Stewart himself. Three-quarters of an hour before he introduced the anaesthetic the contents of one capsule of omnopon-scopolamine were injected subcutaneously. The spinal injection consisted of a solution containing 10 cg. of stovaine and 0.0075 mg. of strychnine hydrochloride. It was introduced between the twelfth dorsal and first lumbar vertebrae. For the next ten minutes the patient remained lying in the supine position, and was then found to have total anaesthesia and analgesia below a horizontal line drawn 2 in. beneath the nipples; the operation was then commenced.

Operation.

A median vertical incision, only 5 in. in length, was made below the umbilicus through the linea alba, and the peritoneum opened. The whole of the anterior wall of the uterus was then visible, after retracting the upper angle of the incision, and this was made especially easy by the completely relaxed condition of the abdominal wall. A median vertical incision about 5 in. in length was made through the anterior uterine wall, and the placenta was then found to be attached to this wall; it was therefore separated digitally and the child delivered by its legs. After delivering the placenta and membranes, the cervix was dilated from above by passing the hand into the uterine cavity. At this point 20 minims of liquor ergotin were injected hypodermically. The uterus, after the application of hot towels, retracted well, and was then closed by a double row of silk sutures. The patient was then sterilized by the excision of the interstitial portion of each Fallopian tube. At this stage the pulse became irregular and weak, and a hypodermic injection of 5 minims of liq. strych. hydochlor. was administered with the desired effect. The abdominal wound was then closed in its several layers. Throughout the operation there was only slight haemorrhage.

The child, a male weighing 6½ lb., was fully formed and well developed. There was no respiratory embarrassment.

Remarks.

The patient behaved admirably throughout. For a few seconds only after the injection of stovaine she complained of subjective sensations of "pins and needles" in her feet and legs, which were attributed by Dr. Stewart to transient stimulation of the nerve roots. After this she felt absolutely nothing during the operation, and conversed freely with the persons present. She felt thirsty, and was given small quantities of water to drink.

The operation lasted thirty minutes, and two hours after the time at which the spinal injection had been given the patient was able to move her legs; sensation and complete motor power then rapidly returned. She has since made a complete recovery; the wound is perfectly healed, her heart is beating regularly at almost a normal rate, she is on a full diet, and she is able to nurse her baby.

Note by Dr. Drummond Robinson.

In this case I was struck by (1) the extreme relaxation of the abdominal wall, which allowed the uterus to be dealt with through a small incision; (2) the excellent general condition at the end of the operation.

Reports of Societies.

ROYAL SOCIETY OF MEDICINE.

RESUMED DEBATE ON ALIMENTARY TOXAEMIA.

April 21st and 28th, 1913.

Sir FRANCIS CHAMPNEYS, President, in the Chair.

Nature of Adhesions: Short Circuiting.

MR. P. LOCKHART MUMMERY remarked that even a small delay in the passage of intestinal contents caused symptoms of toxaemia, and in long-standing cases the liver became so damaged that it allowed poisons to pass through into the blood. Mr. Lane, he thought, attributed too much to the action of gravity. The lesions found were seldom inflammatory, but mostly owed their origin to chronic constipation and overloading of the bowel in early life. He did not think Mr. Lane's theory was correct with regard to the formation of adhesions. They were often not adhesions, but folds of normal peritoneum. They were not mere thickenings in the normal peritoneum but double folds of its membrane. Apart from this, Mr. Lane seemed to disprove his own case by admitting that these bands were found in young children, in whom the forces to which he attributed their origin had not begun to act. The symptoms due to the presence of poisonous material in the alimentary canal could be remedied in three ways: (1) By preventing the formation of poisonous material in the tract; (2) by preventing its absorption; (3) by removing that portion of the tract in which the toxin was formed. The first of these could often be carried out by alterations of diet. The second result could only be secured by preventing the material remaining in the tract long enough to form a toxin. But the occurrence of stasis was not necessary for the production of toxaemia. Conversely, there were many instances of severe stasis in which no toxaemia occurred; this was best seen in congenital dilatation of the colon, where the patient's bowels acted only a few times a year. Yet he had not seen one such case which suffered from toxaemia. Sometimes stasis could be remedied by washing out through an appendicostomy opening, or by short-circuiting the large bowel. Some of the most important conditions were those associated with joint lesions. Some cases of crippling arthritis were due to poisons formed in the large bowel, and in such cases lipping of cartilages and a tendency for the destruction of the joint might be observed. By early operation in these cases it seemed that the joint condition could be prevented. The operation chosen should depend on the cause of the stasis in the particular case, and every effort should be made to arrive at a correct diagnosis. He had found the sigmoidoscope of the utmost value in diagnosis, and much information was also obtained by giving a bismuth meal and taking an *x*-ray picture. Examination of the stools was often misleading, and was seldom of much value. Short-circuiting should be reserved for cases in which appendicostomy failed to give relief. His objection to a short-circuiting operation was that it left the large bowel blind at one end. He had never seen a case in which he considered colectomy justifiable, except where the patient was so ill as to negative that operation. His experience of short-circuiting had been disappointing, as in several cases it had failed to produce complete cure. He had noticed acetonuria more often in cases of the nature now under discussion than in those where alimentary toxaemia was not present. He had had three such cases during the last year, and one of them was fatal. It was advisable to administer dextrose in all such cases before operation. The after-treatment he regarded as of great importance. Care was required during convalescence, especially as the patients were usually neurasthenic and had lost confidence in themselves. Attention should be devoted to them for three months, or even longer if their normal health was not re-established. Sometimes great benefit followed cutting off nitrogenous food for a time.

Anatomical Consequences of the Erect Posture.

Professo ARTHUR KEITH dealt first with the formation of peritoneal adhesions, a matter which, he said, was

receiving a great deal of attention from anatomists; it brought under consideration one of the most striking of all the developmental changes seen during the growth of the fetus. Man came of a stock in which the mesentery and bowel were originally arranged in a primitive and simple manner, for in the second month of development the human intestine and its mesentery had the lineal arrangement seen in the lowest mammals. During the third, fourth, and fifth months of fetal life a profuse adhesive process set in—a regulated embryological peritonitis—which led to the cohesion of mesenteries and viscera to the posterior wall of the abdomen, an adaptation, as was supposed, to the upright posture, for it was only in upright forms that these adhesive changes took place. After the fifth month the process of adhesion procceded more slowly, and was completed about the time a child learnt to walk. The extent of the process was extremely variable, as might readily be seen by consulting recent papers by Dr. Douglas Reid, the monograph by Drs. Henry M. W. Gray and W. Anderson, or the fine treatise on the appendix by Kelly and Hurdon. In about one newly-born child out of every ten the process of adhesion bound the mesentery of the lower part of the ileum to the pelvic fossa, giving the condition associated with ileal kinking. The extent to which adhesions were produced between the caecum and ascending colon varied, but a condition which gave rise to a "Jacksonian membrane" was not rare; wide adhesions at the region of the hepatic and splenic flexures were always present. All these adhesions were parts of a normal embryological and useful process, but all peritoneal adhesions in the ileo-caecal region were not embryological and normal. Occasionally there was in adult bodies a degree of adhesion never seen in the child at birth, and anatomists recognized that some of the adhesions were the result of pathological processes. The majority of the adhesions, often regarded as pathological, were in reality mere expressions of a normal and healthy fetal process. Anatomists had recognized that ptosis, or dropping of the viscera, was frequently to be observed before they became aware that Glenard had scheduled visceroptosis as a distinct pathological entity, and long before the clinicians were convinced of the frequency and the importance of the condition. The discovery of Roentgen placed a new means of inquiry in the hands of anatomists. A study of the living diaphragm convinced anatomists that the essential feature of the abdominal viscera was not their fixity but their mobility; they were so attached that they could move freely with the respiratory tide. It became apparent that mesenteries and visceral ligaments only came into action when the limits of normal movement were reached; the musculature of the abdominal wall was the essential mechanism for supporting the viscera. The pathology of visceroptosis was therefore to be sought in a better understanding of the nerve relationships between the viscera and their supporting walls. The researches of Sherrington, Hill, Mackenzie, Elliott, and many others showed how closely the tone and contraction of the abdominal parietes were related to the posture of the body and to the condition of the viscera. The problem of how the tone and contraction of the musculature of the body wall and of the alimentary canal are co-ordinated had not yet been solved, but the evidence led to the suspicion that they were regulated by a common nerve mechanism and that this mechanism could be acted on and deranged by pathological products generated in the intestine, so that visceroptosis was one of the manifestations of alimentary toxaemia. The essential question in the discussion was, What is the functional value of the human great intestine? At the beginning of the present century a sharp divergence of opinion set in. In the years 1902 and 1903 three men—an anatomist (Barclay Smith), a bacteriologist (Metchnikoff), and a surgeon (Arbuthnot Lane)—came independently and by a different train of reasoning to the same conclusion, which was that, so far as man is concerned, the great intestine is not only a useless but a pernicious structure. It was a very significant fact that in Paris, London, and Berlin, the position of the great intestine should have forced itself on the attention of thoughtful medical men at the same date. To anatomists, who knew that the great intestine was an intrinsic part of every air-breathing vertebrate, that it reached a high degree of development and specialization in every mammal that included a vegetable element in its diet, that in all the animals immediately allied to man—his contemporaries and his very ancient predecessors—the great intestine was shaped, arranged, and developed as in him, the conclusion that the human great bowel was a useless structure seemed a flat contradiction of every law applicable to the animal body. What suggested itself was, not that the organization of the great intestine had failed, but that the modern dietary set it a task for which it was not adapted. Examination of the evidence on which the useless and pernicious nature of the great bowel was based was twofold. The great bowel could be excised and health maintained, which proved that it was not an essential structure. If diseased, excision might lead to improved health, which proved that to have no colon was better than having a diseased colon. What must be proved, however, before the colon could be regarded as a useless structure was that a man without a colon was in a better state than the man with a healthy colon. Knowledge of the function of the great bowel in the economy of the animal body was vague. Remembering the history of the progress of medicine, it would be rash to presume that, because the use of the colon was not known, it had no function, and was a useless structure. Every year saw some structural part formerly placed with the useless or vestigial structures removed from that list. Only a few years ago, Pavlow and Starling demonstrated the elaborate mechanism which controls the exit of the contents from the stomach to the duodenum. By their investigations Professor Keith had been led to look for a similar mechanism at the junction of the ileum and colon. Elliott had demonstrated that such a mechanism existed at the time he was carrying out research on the movements of the great intestine. Professor Keith felt certain that Dr. Hertz was right in attributing the effects (which Mr. Arbuthnot Lane ascribed to a kinking at the terminal part of the ileum) to a derangement of the ileo-caecal sphincteric mechanism. Every step forwards in knowledge cut the ground from under those who took a purely mechanical view of the action of the great intestine. He felt justified by the evidence he had accumulated lately in supposing that the mechanism for regulating the passage of food from the ileum to the caecum of man was more elaborate than had been supposed. Besides the muscular fibres situated directly at the ileo-caecal orifice and evidently designed to secure that orifice against reflux from the caecum, there was another for regulating, as Dr. Hertz suggested, the passage of the contents of the ileum to the caecum. The musculature of the terminal part of the ileum for an extent of nearly 4 in. (roughly 10 cm.) above the ileo-caecal junction was endowed with a special tonic function, and served as a sphincter for the terminal part of the ileum. Every diseased colon removed by operation should be systematically and minutely investigated. Professor J. W. Smith, of Manchester, had recently had results affording him an opportunity of examining a very complete specimen removed by operation. There was mucous colitis throughout the whole of that part of the great intestine which was excised, with abundance of intestinal sand scattered along the lumen. A typical ileal kink was present 4 in. above the ileo-caecal orifice. The musculature of that part of the ileum was strongly contracted. The terminal 4 in. of ileum was bound down to the pelvic fossa by a peritoneal adhesion exactly similar to that seen in a proportion of normal newly-born children. There was nothing in the nature of the iliac adhesion to suggest that it differed in origin and nature from the natural bond seen so often in children.

Chronic Intestinal Stasis.

Mr. George Rowell said that no one who had seen Dr. C. Mayo's photographs of the ileal kink would doubt the existence of the characteristic band; he had seen it demonstrated to the onlookers at operations scores of times in the most unmistakable manner and had seen also the fastened up appendix, crossing and obstructing the end of the ileum, similarly demonstrated on numerous occasions. Whether the new structures causing these two forms of abnormality were of inflammatory origin or not did not affect reference

to the results produced. In both cases there was a fixed point, and it was obvious that the sagging of the bowel in the vertical position of the trunk must in each case cause some obstruction. Long lengths of intestine were frequently drawn up out of the pelvis in these operations, of which the only fixed attachment was this point, and cases exhibiting these structures displayed in a definite manner the symptoms described by Mr. Lane as those of chronic intestinal stasis. He had seen the bands developed in connexion with the duodenum and the sigmoid demonstrated many times in the clearest possible manner, and had constantly seen the duodenum dilated, sometimes very dilated, in these cases. In operations undertaken for duodenal ulcer he had several times seen ileal obstruction found. The adhesions described at the splenic and hepatic flexures and those supporting the stomach were also quite familiar to onlookers at Mr. Lane's operations. Most of the operations for the relief of chronic intestinal stasis at which he had been present during the last few years had previously been examined by the *x* rays and reported upon by Dr. Jordan. Nearly always the report had predicted accurately the condition found. The precision with which, when assisted by the *x* rays, the exact causation and degree of stasis could be diagnosed before operation was indeed most striking. The *x* rays sometimes showed less than was found at operation; a kink was occasionally missed, but he had never seen a dilated duodenum diagnosed by the use of the *x* rays that could not be demonstrated at the operation. In patients in whom pain had persisted after the appendix had been removed he had seen the ileal band divided and immediate relief result, although it was realized that the relief might not be permanent without a short-circuiting. It was no doubt difficult to understand how, as was claimed, the general effects of chronic intestinal stasis could include the impairment of every tissue. For example, if it were true that a connexion existed with thyroid enlargement, it followed that the relief of stasis ought to diminish the size of the thyroid. In addition to the case related in Mr. Lane's introduction, Mr. Rowell had on two occasions seen an enlarged thyroid diminish very rapidly after short-circuiting. Dr. Hale White had adduced a case of exophthalmic goître which disappeared during an attack of typhoid. The rest in bed, the milk diet, and the diarrhoea during the illness obviously must have kept the patient without stasis for some weeks, so that instead of affording an argument against the theory that exophthalmic goître was associated with chronic intestinal stasis, the case would seem to be in perfect accord with that belief. The cure of duodenal ulcer by rest in bed had a similar significance. Symptoms of long-standing chronic intestinal stasis were often demonstrated in cases of cancer of the breast, and repeatedly in cases of cancer of the bowel. In disease of the gall bladder and of the pancreas the ileal kink was clearly shown. In pyorrhoea, a condition held by Mr. Lane to be a result of chronic intestinal stasis though probably he would not deny the possibility of direct infection, as for example from pet dogs, complete cure might follow the use of vaccines or scrupulous local treatment, but in many cases the cure was much aided by paraffin internally.

Bacteriology.

Dr. LANGDON BROWN said that toxaemia only resulted when either (1) abnormal intestinal flora became established which produced specific toxic substances, or (2) the normal flora acquired an abnormal habitat. He had a young man now under care in whom the rhinitis with offensive crusts from which he suffered was due to *B. coli*. The reason for the comparative failure of the phenol compounds as intestinal antiseptics was that by combining with the sulphates they deprived the body of the power of rendering harmless those putrefactive substances the formation of which they could not altogether prevent. Sulphates in the treatment of intestinal diseases had not only an aperient but also an antitoxic action. Mr. Mackenzie Wallis had recently pointed out how unstable a substance indican was, making it necessary to examine for it as soon as the urine was passed. The association of paroxysmal haematoporphyrinuria with an intestinal toxaemia was practically certain. The simple chemical poisons of the body did not stimulate the production of antibodies; they were neutralized by substances normally present. When pyorrhoea, which played an important part in the production of atonic dilatation of the stomach, was cured the rapidity with which the stomach might regain its tone was remarkable.

Mr. PETER DANIEL thought that in seeking for the cause of a toxaemic state intrauterine conditions were too frequently overlooked. And a toxic upbringing of the fetus was likewise very important. He did not agree that visceroptosis was the result of civilization, or that the erect posture was the cause of intestinal stasis. Intestinal toxaemia was due not to stasis but to the presence of harmful microbes. He dwelt on the importance of pyorrhoea and gingivitis.

Mr. K. W. GOADBY, in a careful consideration of the subject from the bacteriological point of view, reported that in a series of 150 consecutive and unselected cases of suppuration of the alveolar process of the jaws, 24 per cent. had no general symptoms, notwithstanding the constant swallowing of pus for at least two years; 42 per cent. had gastro-intestinal affection, 56 per cent. had rheumatic and joint symptoms. In none of the 150 cases was gastritis an acute symptom. The main symptoms pointed to affection of the large bowel. The essential pathological change in pyorrhoea alveolaris was rarefying osteitis of the alveolar process, as well as of the body of the bone; hence the drastic removal of teeth advocated by dentists did not always get at the root of the matter. The treatment should be both local and general.

Results of Operation.

Mr. EDRED CORNER said that a certain amount of alimentary toxaemia was physiological and natural. Certain patients who had had colectomy or short-circuiting done, with or without appendicostomy, had been greatly improved, and he did not think the improvement could have been attained in any other way. Patients who had found life a burden for ten years had, after that operation, become rejuvenated to a remarkable degree. But as some cases so treated did not show that improvement, the point was to choose the right sort of case. The procedure was to make the alimentary tract only one of a number of excretory systems; the skin, kidneys, and lungs were others, and where the operation failed it was probably because one of the other systems was at fault. The terms "alimentary stasis" and "alimentary toxaemia" should not be used more or less synonymously. Some people with intestinal stasis yet enjoyed good health.

Mr. C. H. FAGGE was a strong supporter of the views of Mr. Arbuthnot Lane, because he had had the opportunity of observing his work. In nearly every case of his own he had received definite and reliable evidence from the skiagrams taken and interpreted by Dr. Jordan. He noted with satisfaction the shifting of view of a large number in the profession from harsh antagonism and denial of the occurrence of these bands to criticism of method of their production, and to objection to Mr. Lane's view that any symptoms could occur therefrom. He dealt in detail with the operative aspect, expressing the view that caeco-plication was not sound.

Mr. CARSON said there were two conditions the cure of which almost depended upon the correction of intestinal toxaemia—these were parenchymatous goître, to which Major McCarrison had drawn attention, and chronic or subacute mastitis. Delay in the passage of intestinal contents caused increased bacterial activity and absorption of toxins. First, constipation occurred, the amount of contents maintained in the erect posture for sixteen hours a day produced a great strain on the caecum and ascending colon, causing sometimes prolapse of the caecum. Nature's effort to overcome this led to the formation of bands, passing from the parietal peritoneum on the outer side of the ascending colon, downwards and inwards, to be attached to the colon on its anterior surface. A similar band was often seen at the beginning of the sigmoid flexure. These bands he regarded as protective in the first instance, and not inflammatory. The kind of operation done must depend on the condition found on opening the abdomen. Whatever operation was chosen, medical treatment should be continued for at least six months.

Mr. E. C. HUGHES dealt with the question of the origin of the bands, and expressed his agreement with Mr. Lane's views. The band in connexion with the small intestine

was responsible for the ileal kink. The upright attitude was followed by important changes in the position of the appendix, and in adults it was his experience to meet with an appendix abnormally situated more often than not. He had seen cases of Still's disease and of rheumatoid arthritis in which the relief from operation had been marvellous.

Oral Sepsis and Pernicious Anaemia.

Dr. WILLIAM HUNTER, after observing that alimentary processes began in the mouth, were continued in the stomach and intestine, extended to the portal blood, and might be said to end in the liver, said that of toxaemic blood conditions commonly met with the most mysterious and severe was associated with oral sepsis; he had been led to look from disturbances of the stomach and intestines back to infective lesions in the mucosa, which were an invariable accompaniment. He showed, by means of the epidiascope, specimens of disease in various viscera, as well as a most instructive set of crowns and plates of teeth used in conservative dentistry which proved to be prolific culture-beds for bacteria. The portal blood was always toxic, even in health; the causes might be classified as: (1) non-infective; (2) infective. The first embraced the various products of digestion formed by the ferments of the salivary, gastric, pancreatic, and intestinal digestion. The second were those caused by the *coli* group of organisms. Nature's provision against harm produced by the latter was, first, the daily removal of the mass of excrement, and secondly, the provision of protective mucus lining the whole gastro-intestinal tract, and of protective muscular movements which kept the gastro-intestinal contents in more or less continuous movement. Dr. Hunter discussed the uses of the other flora of the intestine, especially the lactic acid group, which were the most beneficent and least harmful. The streptococcal group played an important part in disease, especially in diarrhoea, congestion, inflammation, and ulceration. Pernicious anaemia was due to the haemolytic infective organism. Oral sepsis was a double-handled weapon of offence in relation to the blood, and the effect of removal of the offending mouth trouble on the general health was like magic.

Selection of Cases for Operation.

Sir BERTRAND DAWSON said that although the terms "alimentary toxaemia" and "intestinal stasis" were open to criticism, they conveyed a definite clinical picture—the sallow, dirty complexion, the inelastic skin, the dusky lips and nails, the dirty tongue, evil-smelling breath, constant abdominal discomfort of one kind and another, the doughy inelastic abdomen, cold extremities, the physical and mental depression. That such a condition could be produced by colon block and stasis was clear, and that, when thus produced, it was curable by putting the colon out of action by short-circuiting was demonstrable. He thought, however, that Mr. Lane gave too great prominence to motor defects. Mechanical delay was not a necessary condition of alimentary toxaemia. It might equally be caused by chronic infection of the gums, stomach, or appendix. Some of the most marked cases of alimentary toxaemia he had seen had been associated with diarrhoea and an empty colon. Bad cases of stasis were benefited by operation, not only because short-circuiting removed the obstruction, but because the colon was diseased and had become an active influence for evil. The key to the condition might often be found in its early chapters. The sequence in time might be in one case infection-stasis, and in another stasis-infection. If an infection, it might begin in the gums, tonsil, or stomach, and finally manifest itself in the appendix or colon; or the order of the infection might be reversed. Acute infection of the stomach had been long recognized; but it was equally true that chronic infection, usually by a streptococcus, was a definite and fairly common cause of gastric disturbance. Sometimes such chronic infection existed alone; at other times in association with, say, disease of the appendix or colon. A study of appendix operations brought out well the infective and motor aspects of gastro-intestinal toxaemia. In one group of cases the appendix was not the seat of inflammation, but the caecum was distended and toneless, perhaps tied down in the pelvis, and the ileum might be kinked. The prime cause of the trouble in such cases was mechanical; the small intestine could not empty, and toxaemia ensued. The efficient treatment was to cure the stasis; removal of the appendix alone was futile. In such a case the first event was motor failure of the colon; the later stages were infective or toxic, and might extend to the stomach or mouth. In another group a chronically inflamed appendix, containing muco-pus, was found, and as the result of its removal the patient was cured of colitis or gastritis, the tongue cleaned, the breath ceased to smell, and he became well. Here the prime cause was infective. If the appendix focus were not removed, the colitis might progress, and what had begun as an infection in the colon might pass on to motor failure, and everything which Mr. Lane described as intestinal stasis ensue. Colitis comprised conditions which were widely different. In one case the passing of mucus, and it might be of blood, went with obstruction of the colon, and, if the conditions were severe, the only cure would be to graft the ileum into the sigmoid. In another case colitis might be associated with an infection of the appendix, or was the final expression of an infective attack taking its origin in the throat, stomach, or upper intestine. It was not uncommon for a patient who passed mucus in the stools to have acute attacks, which commenced it might be with sore throat or gastric discomfort, and then passed in a few hours to pain in the colon and the passage of much mucus. All cases should be systematically investigated, both from the infective and the motor standpoint. It would not be sound reasoning to put down vague symptoms to intestinal stasis merely because there was objective evidence of colonic block. With some people a loaded colon was not incompatible with health. After the existence of toxaemia had been established, careful investigation was needed to show whether the prime cause was infective or obstructive. If obstructive, careful examination of the anus and rectum should be made. In many cases the obstruction of the colon was due to fibrotic sphincter ani; in other cases the simple operation of appendicostomy sufficed. In a large proportion of cases, however, systematic medical treatment, carried out with persistency, was followed by success. Such treatment comprised suitable diet, hydrotherapy, massage, exercises, petroleum oil, carefully regulated lavage, and other measures. The success of such treatment depended on careful regulation of every detail carried out in an institution, and no class of disease emphasized more the need of sanatorium treatment. The reason why the treatment of gastro-intestinal disease was sometimes more successful on the Continent than in England was that the treatment was more methodical and carried out in institutions which in this country were lacking. Finally, there remained cases in which the colon was hopelessly diseased, powerless to perform its functions, and in some way an active influence for evil; in these suitable cases, and by suitable hands, ileo-sigmoidostomy gave truly wonderful results, and was a great advance in treatment.

Chemical Problems.

Dr. MELLANBY confined his attention to the purely chemical aspect of the subject, laying special emphasis on the amines and the proteolytic ferments. A great impetus to the study from the physiological point of view of the process of intestinal absorption had been given by Starling, Bayliss, and Cow.

Electricity.

Dr. ETTIE SAYER spoke of the value of high-frequency currents in promoting excretion and reducing blood pressure. It was important to remember the heating effect of such currents on their passage through the body. She had encountered a number of cases of constipation and toxaemia which yielded to the high-frequency current when other measures had failed. Galvanic currents caused no muscular contraction except when switched on and off; their tension was too low to have any appreciable heating effect, but their ionizing action was a most useful stimulant of excretion. Where systemic toxaemia preponderated over the local symptoms, a combination of high-frequency current and massage was excellent. For local patches of fibromyositis, ionization with lithium iodide gave great relief, and the electrical treatment acted

as a nerve sedative. Much care, however, was needed where there was any failure of ventricular compensation.

Dental Conditions.

Dr. SIM WALLACE laid great stress on the lodgement and proliferation of micro-organisms, and defective elimination or control of the toxins generated. Among the physiological processes which kept the mouth in a hygienic state, and prevented the ever-present bacteria from stagnating and so causing toxaemic effects, the action of tongue and teeth was most important; the former not only moved the bolus of food about, but subsequently cleaned the teeth and gums. No food residue should be permitted in the mouth after a meal. The coating of mucus over the teeth prevented harm to them from acid foods. Superseptic states, together with recession of the gum and extensive absorption of the alveolar process, could occur without the occurrence of pyorrhoea alveolaris. Tender teeth and gums should at once be put right, because function in their neighbourhood was inhibited, and inefficient action resulted. There was great harm in the retention of functionless superseptic teeth. He concluded by insisting on a very careful and systematic mouth ritual.

Cardiac Complications.

Dr. BEZLY THORNE recalled a paper he had read seventeen years ago on self-poisoning and heart disease. Therein he pointed out that many of the affections of the circulatory mechanism were associated with some catarrhal condition of the alimentary canal, especially the gastro-duodenal portion; and that coincidentally it was common to find evidences of rheumatoid arthritis. He, however, fully recognized the gravity of sepsis originating in the mouth, nares, and accessory cavities. Normal formed faecal matter could be retained several days with no result beyond discomfort. Fluid stools were due to interference with the bio-chemistry of digestion. Drab or yellowish stools, especially if fluid, were always toxic. Without a sufficient supply of the biliary and pancreatic juices the door was opened to morbific bacterial activity. The person with frequent watery stools was undergoing rectal feeding on his excremental poisons. This was accompanied by a rise of blood pressure, and conduced to a degenerative change in the myocardium, and especially of the tunica media of the arteries. It favoured also the production of fibrositis. He concluded by quoting illustrative cases in his own experience.

Other Complications.

Dr. ADAMSON said that the eruptions caused by various drugs, and by special foods such as shellfish, tinned meats, and certain poisons, were generally regarded as phenomena of anaphylaxis, or a hypersensitiveness to foreign proteids. That explained why a person who had once had such a poisoning remained hypersensitive to the food which caused it. Abdominal symptoms associated with erythema multiforme were probably due to the occurrence of the same lesions in the mucous membrane of the intestinal canal.

Dr. R. MURRAY LESLIE considered that in some cases the symptoms of alimentary toxaemia were aggravated by defective functional action of the liver, as shown by a patient of his own in whom indican and skatol, as well as urobilin, were found in the urine. More than one speaker had said that there was no necessary relation between the amount of stasis and the degree of toxaemia; there were marked idiosyncratic differences. Shortly before death, when the vital forces were at a very low ebb, the *B. coli*, streptococci, and other bacteria passed readily through the intestinal mucous membrane and so into the circulation, while their toxins, not being neutralized, accumulated in the circulating blood. The thyroid and other ductless glands played an important part in the vital resistance, and he believed the internal secretions of the genital glands also had an effect in counteracting the effects of alimentary toxaemia.

Mr. LEWIN PAYNE believed pyorrhoea alveolaris to be a curable disease, and that the number of cases cured without resorting to extraction was increasing. In advanced cases extraction was necessary, but carbohydrate dyspepsia was aggravated by removal of the teeth. A combination of local treatment with the use of vaccines he had found of great benefit.

Dr. ACKERLEY approached the problem from the point of view of the spa physician, and pointed out that absolute control over only one part of the alimentary tract—namely, the mouth—could be obtained. He deplored the lack of teaching on the importance of complete insalivation of the food, especially to children; and he related how, by means of taking milk in various ways, he had demonstrated to his own satisfaction the importance of proper admixture of saliva with the food, which was best brought about by a sucking action. He also alluded to the harm done by merely swallowing pappy foods and the modern methods of preparation of foods which called for a minimum of masticatory effort.

Mr. S. F. ST. J. STEADMAN did not agree with Mr. Lane that pyorrhoea alveolaris was secondary to intestinal stasis. The work of Mr. J. F. Colyer and Mr. J. G. Turner showed that the chief factors causing disease of the tract were the lodgement and subsequent decomposition of the sticky carbohydrate food. He was in close agreement with Mr. Goadby's contentions, but he could not satisfy himself, as the result of a good deal of observation, that vaccines had any permanent benefit on the disease.

The discussion will be continued on Monday, May 5th.

SECTION OF MEDICINE.

AT a meeting on April 22nd, Dr. FREDERICK TAYLOR, President, in the chair, Dr. H. LYON SMITH, in a paper on *Gout and chronic rheumatism*, pointed out that the infection was chronic and its nature must vary enormously; it was uncommon to find two cases presenting identical infections with identical symptoms. Probably the time was not far distant when the old clinical terms would be replaced by names which expressed more accurately the nature of the malady. He had not attempted to produce gout or chronic rheumatism by means of the organisms found in these cases. Fibrositis he regarded as inflammatory infiltration of the connective tissues. Bacteriological investigation showed that a closer relationship existed between gout and chronic rheumatism than clinicians usually thought. There were a number of lesions which served as foci of infection, such as pyorrhoea, chronic pharyngitis, post-nasal catarrh, bronchitis, gastro-intestinal catarrhs, urethritis, cystitis, pyelitis, vaginitis, and even some forms of dermatitis. Considerable divergence of opinion existed as to what constituted pyorrhoea alveolaris, some holding that it was not present unless pus could be extruded from between the teeth and the gums; but that was the advanced stage of the condition. Most of the cases of chronic rheumatism he had seen had a gum affection, and the infection of the joints was usually a mixed one. Frequent bacteriological examination of pathological exudates would often afford valuable clues to diagnosis and treatment. Dr. LUFF declared his belief that all cases of so-called rheumatoid arthritis were of infective origin, though not due to any one organism. So-called chronic rheumatism he regarded as fibrositis—that is, a hyperplasia of the white fibrous tissues in various parts of the body. There was no evidence that the causal microbes were in the joints, the affection of which was toxic, such toxin probably originating in the intestinal tract. Dr. MCWALTER (Dublin) commented on the lack of success in the treatment of the conditions under consideration, though the profession had been studying the problem for hundreds of years. The uric acid hypothesis seemed to mark an advance, but Dr. Luff had declared that to be a harmless by-product of metabolism. Dr. T. R. LISTER, in a paper on *Treatment of ambulant cases of pulmonary phthisis* by T.R. and bacillary emulsion in the out-patient room, said there were disadvantages in the treatment of patients in these circumstances, partly due to the difficulties of the patients and partly to the intermittent observation. The practice had been to take the mouth temperature on first awaking in the morning and one hour after tea. In the wards, with the patients under continuous observation, dosage could be spaced with more regard to positive and negative phases. There was even greater need for selection of cases for tuberculin treatment in the out-patient department than

for sanatorium treatment. Nutrition was, of course, an essential point. Many unfavourable results, he felt sure, were due to failure of nutrition. General physique had also to be taken into account, and the manner in which the organism withstood the infection. There must be a great number of cases of the disease which simply got well. A theory had been advanced that nine-tenths of the population recovered from infection by tubercle owing to the general infection and possible immunization consequent thereon. Each case must be decided by itself in regard to suitability for the treatment and prognosis. The adverse factors were poor physique, extreme poverty, bad family history, rapid pulse, and severe anaemia. Cases which had a primrose tint of the soft palate, with general anaemia of the buccal mucous membrane, generally did not do well. He usually began with 0.00001 to 0.00002 mg. of T.R.; this was experimental. Patients were instructed to carefully register their temperature during the first two or three days, and to report on their feelings. He usually injected on Friday afternoons, so that any reaction would be manifest on the Sunday and they would be able to rest. If there had been no evidence of undue susceptibility the dose was increased to 0.00004 to 0.00005 mg., subsequently mounting to 0.0001 mg. He protested strongly against the present indiscriminate use of tuberculin, especially as it was a toxin, not an antitoxin. He was not able to say when treatment should be discontinued. He had taken no out-patients up beyond 2 mg. of bacillary emulsion. The patient should come up at intervals of one or two months to repeat the dose. He described the technique he followed, and concluded by saying that his present attitude towards tuberculin in cases of ambulant phthisis was one of investigation rather than of conviction. Dr. MCWALTER spoke of the results following the use of tuberculin in phthisis in a pessimistic tone; indeed, he regarded the treatment of tuberculosis as one of the most hopeless things in medicine. There was a danger of being misled by some of the tuberculin statistics which were put forward. He thought much of the supposed reduction in the death-rate of phthisis was due to the disease sharing in the benefits ensuing on the improved conditions of living. Dr. FENTON thought it difficult to assess the effect of a remedy when cases were selected, and he had treated with tuberculin all his cases in which tubercle bacilli were found in the sputum. The net result was to leave him in grave doubt as to what was the real value of tuberculin in the condition. In the case of out-patients much depended on the patients' home circumstances, and the kind and quantity of food they could get. Dr. BATTY SHAW recommended a study of the published records of the efforts to stamp out tuberculosis in cattle by means of tuberculin. He also emphasized the varying but definite tendency to get well, which made it a difficult matter to prognose about any patient. Dr. LISTER, in reply, pointed out that his attitude on the matter was one of inquiry rather than dogmatism. He felt, however, that some of his ambulant cases had done well under tuberculin.

SECTION OF BALNEOLOGY AND CLIMATOLOGY.

AT a meeting on April 17th, Dr. MOUILLOT, of Harrogate, in the chair, Dr. EDGECOMBE (Harrogate), in a paper on *The significance, treatment, and prognosis of high blood pressure*, expressed the view that there was a condition of functional or "neurotic" high blood pressure not due to arterio-sclerosis, and distinguishable from hyperpiesis. In the majority of such cases direct treatment was unnecessary, and might be harmful. The condition did not readily lead to arterio-sclerosis. The treatment of early cases of hyperpiesis was imperative, and usually satisfactory. Spa treatment gave the best results. Dr. A. MANTLE (Harrogate), in a paper entitled *The undesirability in confirmed cases of high blood pressure of actively applying therapeutic means to reduce it*, said that one of the unfortunate results of ability to determine a patient's blood pressure in millimetres of mercury was that the sight of the column near the top of the tube often led to immediate active treatment to reduce it at any cost. Consequently cases had been sent to him with a history of high blood pressure in which treatment had effected some reduction, but at the expense of the heart losing the compensatory hypertrophy necessary for the control of the circulation. The fact was that owing to the gradual increase of blood pressure each individual readjusted his cardiac vascular physiology to compensate this, and the physiological limit was not now 140 or 150 mm. Hg, but possibly 220 or 250 mm., and to reduce the pressure below this new physiological limit was not only not indicated, but bad therapy; he met with cases in which he had to give cardiac tonics to raise the pressure rather than adopt vaso-dilator treatment to reduce it. Some cases of high blood pressure due to disturbances of the alimentary canal in free livers—so-called "hyperpiesis"—might be cured if caught early before any fibrosis of the vessels took place. It was advisable to put the patient on a régime limiting the intake and assisting the natural outlets of waste products; it was only after some months of observation that one could say that a pressure was permanently supernormal. Dr. BUCKLEY (Buxton) reported a case in a woman of 38, whose systolic pressure had persisted between 240 and 270 mm. for the three years during which she had been under observation. Her most troublesome symptoms were neurotic, chiefly obsessions. Treatment had proved unavailing, even rest in bed for a prolonged period, but thyroid gland seemed to be of some benefit. Cardiac hypertrophy gradually developed, also albuminuria. He referred also to a case with a similar range of pressure in a woman of 55 with no symptoms definitely referable to this condition, but who had rapidly developed all the appearance of an old woman. Dr. BEZLY THORNE endorsed the views expressed by both Dr. Edgecombe and Dr. Mantle. In the course of 15 observations he had never known digitalis to raise blood pressure. On the other hand, he had found the solution of adrenalin, orally administered, to lower maximal readings, apparently by bringing the muscular tissue of the arteries into action and stimulating conductivity. He strongly advised making diastolic, in conjunction with maximal, records of pressure. Dr. ACKERLEY (Llandrindod Wells) could not regard high blood pressure as the cause of the symptoms associated with it. As regards food, he did not think red meat or any other form of nitrogenous food was necessarily dangerous. Few meals, moderate or small in quantity, avoidance of common salt, and free flushings with water apart from meals, were the essential dietetic rules. Starchy foods, imperfectly insalivated, were dangerous, as they fermented in the bowel. Dr. C. O. HAWTHORNE held that to present sphygmometric readings in terms of blood pressure was hardly justifiable, and agreed that a mere high reading was not a claim for active treatment. He doubted if any drugs had a sustained effect on high readings, and thought the action of nitrites short-lived. Dr. HUMPHRIS agreed with the prevailing sentiment, but protested against the suggestion that the treatment of a high blood pressure by high frequency was disappointing. If it were so it was either the choice of case or technique in fault. Too often the current used (d'Arsonval) was limited in amount to 250 to 300 milliampères, whereas it should be 1,000 milliampères and upwards. With this current the reading should be 10 per cent. lower at the end than at the beginning of the treatment.

MEDICO-LEGAL SOCIETY.

The Futility of the Coroner's Inquest.

AT a meeting on April 22nd, Dr. W. A. BREND, Barrister-at-Law, read a long paper on the futility of the coroner's inquest. He pointed out that the coroner, whose office dated from the twelfth century, was originally a revenue officer of the Crown, and his object in inquiring into a death was to ascertain whether there was property to seize for the Crown, which was the case if the deceased was an outlaw or felon. He had also to assess the value of the deodand, that is, the animal or inanimate object which had led to a death, and which was forfeited to the Crown. But these functions had disappeared, and nothing had been definitely substituted for them. Hence there was great lack of uniformity in the practice and procedure of coroners. Some only inquired into deaths under suspicious circumstances, others investigated deaths where the pathological cause was unknown, though free from suspicion. Some coroners considered they were bound to hold inquests upon all deaths under anaesthetics, others only if there were allegations of negligence. Some went fully into accident cases with the object of settling claims

for compensation, others considered this no part of their duty. One coroner would scarcely hold an inquest without calling medical evidence, another only required such testimony occasionally. The statistics showed remarkable variations between different localities, and pointed generally to the fact that a much larger proportion of inquests are held in towns than in country districts. This was not due to a greater incidence of violence, and meant either that unnecessary inquests were held in towns, or inquests were not held in the country when they should be held. Either explanation indicated an unsatisfactory state of affairs. From the legal point of view a coroner's verdict carried little weight. In criminal cases the courts were almost always guided by the magistrate's decision. If a person was committed for trial on a coroner's warrant, but the charge was dismissed by the magistrate, it was the practice not to offer evidence on the coroner's warrant. Two preliminary investigations before trial, in addition to the grand jury's inquiry, were superfluous. In such cases either the coroner or the magistrate alone should conduct the inquiry. In accident cases the verdict had no legal meaning. Insurance companies were not bound to accept it and often did not. If a claim for compensation was disputed, the whole of the evidence had to be heard over again in the county court or higher courts, and a different decision might be reached. Juries sometimes strained the evidence in order to find a verdict of accident, with the object of assisting a defendant to obtain compensation. This encouraged persons to undertake useless litigation. In cases of alleged suicide verdicts of natural death or accident were sometimes found in the face of clear evidence to the contrary. The publication of details of suicide had a strong suggestive effect upon weak-minded persons. The publication of letters left by suicides, which often contained unfounded charges against innocent persons, was demoralizing, inflicted great distress upon relatives, and served no good purpose. Coroners' juries were not competent to investigate deaths under anaesthetics, and the frequent accounts in the newspapers of inquests upon deaths from this cause raised public alarm and increased the risk of giving an anaesthetic. As regards sources of information open to coroners other than the police, registrars were not competent to revise medical certificates of death, and frequently failed to inform coroners of cases which should be investigated. The coroner's officer was unknown to the law. He might be quite inefficient and was sometimes amenable to bribery. Owing to the pain and publicity attaching to inquests, strong pressure was brought to bear upon practitioners to avoid them if possible, and in consequence they did not always report cases in which the cause of death was unknown if free from suspicion. According to the Registrar-General's returns, there were in 1910 in England and Wales 199 deaths from accident and negligence upon which no inquests were held, and 690 deaths which were neither certified nor reported to coroners. Coroners did not always fully appreciate medical evidence, and serious results sometimes followed. The procedure in some districts was very lax and irregular, and inquests were sometimes scandalously hurried. A coroner's inquest did not settle legal questions, and the scientific results were small. In the matter of reform two alternatives presented themselves. It could be decided that the inquiry was fundamentally for legal purposes, in which case legal weight and meaning should be given to the verdict. The coroner, then, should be a lawyer of high standing; legal procedure would be observed, he would be bound by the laws of evidence, and his court would rank as one of first instance. He alone would investigate charges of murder or manslaughter and would commit for trial. In cases of accident he would possess the powers of a county court judge, and his verdict would be legally binding until upset by a court of appeal. The other alternative was to regard the inquiry as held essentially for medical and scientific purposes. The coroner under this proposal would be a highly qualified medical man, and his primary function would be to determine the pathological cause of death, leaving all legal questions to be settled by other tribunals. In the case of accidents he would settle once for all whether the condition was due to disease or injury, but would not enter into questions of responsibility or compensation. On the other hand, he would investigate deaths from natural and unknown causes more fully than at present, but with simplified and semiprivate procedure. The jury would be abolished and only representatives of the deceased, of persons concerned, and of the police would have a right to be present. Medical men would then hesitate less to report cases. Of the two alternatives the latter was preferable, since the legal aspect was already largely covered by other tribunals. The absence of any satisfactory method of investigating deaths from the scientific point of view militated against the progress of medicine. The system should be combined with reform in the method of certifying deaths. At present medical men hesitated to put down causes of death reflecting upon the character of the deceased. All medical certificates should be sent straight to the medical coroner instead of to the registrar, who would revise them and adopt the simplified procedure in cases where they were not satisfactory. A private inquiry did not lead to "hushing up" in Scotland, and the present system in England was, in fact, already open to this objection. Agitation for reform must come from the medical profession, for they alone knew the dangers and deficiencies of the present system. The discussion was adjourned until May 20th.

SOCIETY OF MEDICAL OFFICERS OF HEALTH.

AT a meeting on April 11th, Professor E. W. HOPE, President, in the chair, Dr. P. BOOBBYER, opening a discussion on the *Administration of sanatorium benefit*, said that the heart of any scheme was the dispensary, which was at once a head office, a clearing house, a diagnosis and treatment centre, and an information and instruction bureau for the entire movement. While centralization in the administrative department necessarily made alike for economy and efficiency, it must not be forgotten that even with the best means of communication it was undesirable in a large proportion of cases to call upon the patients to travel long distances. The dispensary administration should be closely linked up with the health and housing departments, and this union should be centred in the person of the medical officer of health. No scheme should be considered complete without a hospital for advanced cases, a farm colony, and an open-air school for tuberculous children. The incorporation of Mothers' and Babies' Welcomes in any schemes was important. They should be used as branch dispensaries, more especially for the examination, sorting, and treatment of children suffering, or suspected of suffering, from tuberculosis, and who lived in the neighbourhood of these institutions. Dr. EUSTACE HILL dealt with the question from the county area point of view, and maintained that the county councils, and not the insurance committees or the local sanitary authorities, were the proper bodies to carry out sanatorium benefit schemes. Although there should be co-operation between the Insurance Committee and the County Tuberculosis Committee, the latter should be an independent committee and not a subcommittee of the Housing Committee of the county council. Co-operation between district and county councils was essential to success, and he recommended the use of existing isolation hospitals for tuberculous cases, suggesting that additional pavilions should be put up by the district councils and rented by the county councils at an annual sum which would repay the outlay in thirty years. The administration, he advised, should be in the hands of the district council, the county authority paying a fixed sum per patient for maintenance, nursing, etc. Dr. KAYE was also in favour of using isolation hospitals for tuberculous patients, and stated that in the West Riding workmen's houses for discharged patients were to be erected in connexion with a scheme for the treatment of acute and advanced cases. He objected to the use of the terms "chief" and "assistant" in connexion with tuberculosis officers, and suggested that they should be styled "tuberculosis officer" and "district tuberculosis officer" respectively. Dr. S. G. LAWRENCE feared there might be differences of opinion between the county and district authorities as to the sites of the head and branch dispensaries and as to the tuberculosis nurses. As regards the latter, he considered they should be on the staff of the medical officer of health of the district. Mr. F. E. FREMANTLE advocated the use of the existing nurses as tuberculosis nurses as it was difficult to divorce preventive from curative action. Dr. CORFIELD, on the other hand, advised the employment of a special nurse for preventive work who

would act as a health visitor. Dr. W. G. WILLOUGHBY said that there was sometimes a sentimental objection to school nurses dealing with tuberculous cases on the score of possible infection. Dr. SANDILANDS considered that the dispensary nurses should be on the staff of the medical officer of health. Dr. CALDWELL SMITH thought it was not the duty of a dispensary nurse to attend people at their homes and make beds, empty slops, etc. The people themselves should do this. Dr. BYGOTT was afraid that tuberculosis work might get into the hands of voluntary charitable societies, whose standard was not usually very high. Dr. GERARD TAYLOR urged the importance of co-operation with the general practitioners who were just now suspicious of innovations, and feared the time might come when their work would be taken from them by public officials. Dr. HERBERT JONES, Dr. F. ROBINSON, and Dr. HOWARD-JONES also took part in the discussion, a portion of which took place at an adjourned meeting of the society on April 25th, when Dr. W. G. Willoughby presided.

ULSTER MEDICAL SOCIETY.

AT a meeting on April 17th, Dr. R. W. LESLIE, President, in the chair, Professor SYMINGTON demonstrated a method of making anatomical preparations by filling the hollow cavities with gelatine. Transverse sections of the human body an inch thick could be made in this manner, and could then be handled without displacement of structures, which so frequently happened when sections were made by other methods. Exact poker-work models could be made of these sections in wood, and transfixed in column by a long iron rod. Mr. CRYMBLE gave a demonstration on the living body of the palpation of the ileo-colon, the caecum, the transverse colon, and the lower end of the ileum where it enters into the caecum; and subsequently showed lantern slides of some abnormalities of the large intestine, and their relation to intestinal stasis. The other exhibits included demonstrations by Dr. MALCOLM of the paracolic folds and fossae, and some sections showing pericardial effusion; of the form and capacity of the renal pelvis, by Dr. KERR; of the motor area in a case of brachio-facial monoplegia in an infant, by Dr. DICKEY; and of a method of improved technique of staining tubercle bacilli, which was especially useful when there were a large number of specimens, by Dr. W. J. WILSON.

LIVERPOOL MEDICAL INSTITUTION.

AT a meeting on April 17th, Mr. F. T. PAUL in the chair, Mr. JEANS, after showing some specimens of *Desmoid tumours*, said the term was applied to tumours consisting of fibrous tissue growing from muscle and fascia, especially in the lower part of the abdominal wall. It was supposed that they might originate from inflammation, haemorrhage, or from friction. They sometimes appeared in cicatrices. Mr. Lockwood had described them and had recommended that they should be treated as suspect of malignancy. The specimen shown was about the size of a pigeon's egg, and had occurred in a fat, healthy woman of 22 in the region of McBurney's point, and had been noticed for three years, and was slowly growing and becoming painful. Mr. PAUL said the tumour was of a class of spindle-celled tissue which might become malignant, but when removed in time would not recur. Dr. J. MURRAY BLIGH, in a note on the *Tuberculin reaction*, said he had used Koch's old tuberculin in 60 cases, all children, half of whom had no symptom of tuberculosis, and half with evident tuberculous disease. His general conclusions were that tuberculin reaction was of no practical value for diagnostic purposes. He mentioned that in 9 cases of chorea tested 8 gave a positive reaction to human or bovine tuberculin, or to both, and after the chorea was cured they gave negative reactions. Professor BEATTIE said that a positive reaction in cases where there was no evident disease might arise from tuberculous disease being present in the tonsils. He had found this in cases where there was no other tuberculosis. The cases of chorea might give a reaction, as sore throat was a common accompaniment of chorea, and it might be tuberculous, and so explain the high percentage of reactions in chorea cases. Dr. PERCY MARSH had found, after extensive use of von Pirquet's method, that it was of little value, but in children under 1 year a positive reaction had invariably meant a fatal result in that case.

Reviews.

HUMAN EMBRYOLOGY.

ALTHOUGH the science is but of yesterday, the two handsome volumes of the *Manual of Human Embryology*,[1] by KEIBEL and MALL—one consisting of over 500 pages and the other twice as large—illustrate in a striking fashion the enormous output of work in this subject since the late Professor Wilhelm His began, by means of serial sections, the systematic examination of human embryos. He it was who made the great change in technique, and who constructed the apparatus for section cutting which, primitive as it now seems, led the way to our modern microtome, and he also thought out a method of graphic reconstruction which has been greatly improved, especially by Born, and which is now absolutely indispensable in embryological investigation. It was with this equipment that His began the study of human embryology, and a whole army of investigators—many of whom received their first inspiration to the study of the subject in his laboratories—have continued the work.

The idea of working out a complete account of the development of the human body was always before the mind of His, but as time went on the hope of accomplishing the task single-handed failed him, and he suggested to Professor Keibel of Freiburg that he should collaborate with him in writing a textbook on the subject. Unfortunately, through the death of His in 1904, the plan was never carried out, but Professor Keibel, on whom His's mantle has fallen, has been able by means of his *Normentafel zur Entwicklungsgeschichte der Wirbeltiere*, to carry the plan further, and to prepare the way for its fulfilment. Obtaining the assistance of one of His's most distinguished pupils in America, Franklin P. Mall, of the Johns Hopkins Medical School, he has been able to bring to completion such a handbook of human embryology as His and he had planned. To do this they have enlisted the services of a number of colleagues, the necessary similarity of treatment being secured by a common purpose and by editorial supervision. No one can examine the pages of these two volumes without being struck by the fact that each contributor writes with a complete mastery of his subject. In vol. i Keibel has written on the germ cells, fertilization, segmentation, and young embryos; Grosser has contributed the article on the egg membranes, the placenta, and menstruation; Mall has written on the pathology of the human ovum and the determination of the age of human embryos and fetuses; Pinkus has contributed the chapter on the development of the skin; Barden that on the skeleton; and Lewis that on the muscles. The first volume is completed by an article by Mall on the development of the diaphragm and the body cavity.

In vol. ii Streeter has a long article on the development of the nervous system; Zuckerkandl a short one on the suprarenals and chromaffin organs; Grosser, Lewis, and McMurrich have collaborated to write the chapter on the development of the digestive tract and its derivatives; whilst Minot, Evans, Tandler, and Sabin together have contributed the article on the development of the blood, the vascular system, and the spleen. One of the most comprehensive chapters—that dealing with the urino-genital system—has been written by Felix, and the work is rounded off by Keibel, who has summarized in a brief closing chapter the interdependence of the various developmental processes.

Within the limits of this review it is not possible to give any detailed criticism of the work, and we cannot do more than speak in general terms of the high character of the whole series of articles contributed. It has been a gigantic task, and embryologists the world over are under a great debt of gratitude to the distinguished editors and authors for providing such a record of present knowledge of the embryology of the human body, a record which must remain the standard work to which all investigators in this field will turn for reference. It is a work also which indicates in a critical way the lines along which future work must develop. The usefulness of the book is greatly

[1] *Manual of Human Embryology*. By various Authors. Edited by F. Keibel and F. P. Mall. London and Philadelphia: J. B. Lippincott. Two vols. (Imp. 8vo, vol. i, pp. 555, illus. 423; vol. ii, pp. 1040, illus. 658. 30s. net each.)

enhanced by the free use of illustrations—it contains over one thousand—and also a very full bibliography; in short, it is a mine of authoritative information, to which the physician and surgeon will doubtless turn, as well as the teacher and student of anatomy, whenever helpful knowledge is required in connexion with the development of any part of the human body.

THE TREATMENT OF INFANTILE PARALYSIS.

THE English translation of the book on this subject by Dr. OSCAR VULPIUS of Heidelberg,[2] has been made by Dr. ALAN TODD, and we may say at once that he has succeeded in rendering the German into clear and idiomatic English. Beginning with the history of infantile paralysis Dr. Vulpius gives an interesting summary of the recorded epidemics of the disease in Europe and America. He inclines to the disquieting opinion that its prevalence has increased, although it must be admitted that the increase may be apparent only, owing to the increased attention given to disease in general and to nervous diseases in particular. The surgical treatment of infantile paralysis may be roughly classified as correction of position by means of operations on the skin, bones, joints, and tendons, or correction of function by operations on tendons and nerves, designed to restore lost powers of voluntary movement. These latter proceedings are of quite recent date, for although Nicoladoni's first operation was done in 1880, it is only since 1892 that much attention has been given to the subject by surgeons, and notably by Professor Vulpius himself. His statement, therefore, in this book of his experience and of his opinions is bound to have great weight and interest, and we do not think that the student of the subject can find anywhere a more complete account, or one which will give him more full practical advice, always remembering that the author is somewhat of an enthusiast in tenoplasty, and that some authorities, notably Professor Kirmisson of Paris, would very heavily discount his account of the benefit to be expected from it. The work includes a great deal of valuable information upon the incidence of the different forms of paralytic deformities, discussions of the best treatment for each, and a very good section on orthopaedic instruments. The illustrations are many and excellent.

RADIOLOGY.

A BRIEF account of the methods employed in the *x*-ray examination of the stomach and intestines is given by HOLZKNECHT.[3] It is illustrated by diagrams showing the appearances that may be considered normal, and comparing them with the signs found in such disorders as hypermotility, duodenal obstruction, chronic constipation, ulceration or new growth in the colon, enteroptosis, and so on. He recommends the use of barium sulphate, *chemice purissimum ad usum internum*, as the best salt for the purpose. Of this, 80 grams (2¾ oz.) may be given by the mouth in milk-gruel; when the large intestine is to be examined, 300 grams (10½ oz.) of it may be administered to an adult in a starch enema, 500 to 1,000 c.cm. being slowly injected in children, 1,500 to 1,700 c.cm. in adults. The *x*-ray examination should be made immediately after the enema has been given, and, in general, both six and twenty-four hours after the barium sulphate meal has been taken. Holzknecht notes that the enema commonly fills the whole colon and caecum, often the appendix too, not rarely part of the ileum. The pamphlet may be warmly recommended to the attention of skiagraphers and clinicians.

Dr. H. E. SCHMIDT, of Berlin, who is well known as a dermatologist and radiologist, has written a small practical manual on radium-therapy, but it would not be claiming too much for it to describe it also as a book of reference.[4] The German style is easy, terse, and to the point, and the subject is treated so simply that the English reader will have no difficulty in understanding even the technical section, which occupies the first sixty-eight pages of an admirably illustrated book. The advantages and disadvantages of the many varieties of appliances now on the market are shortly reviewed in this section, and the study of it will amply repay any intending purchaser of an *x*-ray outfit. The second part is a compendium of *x*-ray therapy, and includes a very clear description, under subheadings, of the development of the art, *x*-ray dermatitis and carcinoma, sensitization and desensitization to *x* rays, deep-level technique, prophylaxis for the operator, and the detail for the individual treatment of all the skin disease indications, with simple diagrams to illustrate his exact meaning. The survey concludes with a reference to the applications of radio-therapy in general medicine, and the treatment of such diseases as leukaemia, malaria, Graves's disease, arthritis deformans, etc. Neuralgia, uterine myomata, tuberculosis, hypertrophy of the prostate, inoperable carcinomata, and certain diseases of the larynx and air passages are discussed. Every worker should possess a copy of this book.

[2] *The Treatment of Infantile Paralysis.* By Oscar Vulpius, M.D. Translated by Alan H. Todd, M.B., B.S., B.Sc.Lond. With introduction by J. Jackson Clarke, M.B.Lond., F.R.C.S. London: Baillière, Tindall and Cox. 1912. (Med. 8vo, pp. 328; 243 figs. 10s. 6d. net.)

[3] *Die Röntgenuntersuchung des Darmes.* Von Priv.-Doz. Dr. G. Holzknecht. (8vo, pp. 12, with 12 figures.) Reprint from *Jahreskurse für ärztliche Fortbildung*, Munich, August, 1912. J. F. Lehmann.

[4] *Kompendium der Röntgen-Therapie.* By Dr. H. E. Schmidt. Third and enlarged edition. Berlin: August Hirschwald. 1913. (Demy 8vo, pp. 233; Abbn. 80. 5s.)

NOTES ON BOOKS.

AN issue of the Twentieth Century Science Series which has not hitherto been noticed is by Dr. SIDNEY HILLIER of Stowmarket, Suffolk, whose volume is entitled *Medical and Surgical Science*,[5] the scope of the work being further indicated by the subtitle, "Conception and Progress." Considering the modest size of the volume, the account supplied by it of the evolution of the science and art of medicine from the earliest ages up to the present time must be deemed remarkably complete. For the most part it is schools of thought and those who have founded or represented them that are considered; but in the later pages the author deals in some degree with modern treatment, and indulges himself in a cautious forecast of future developments. Obviously keen as is his interest in the subject, he nowhere allows it to run away with him, the result being that all periods receive a well-balanced meed of attention, and that the volume may be read with interest either by laymen or by members of the medical profession. In addition to a good index and some reproductions of old pictures of early surgical procedures there is a comparatively brief bibliography.

MEDICAL AND SURGICAL APPLIANCES.

An Antiseptic Toothbrush.

IN 1910 Dr. D. W. Carmalt-Jones and Mr. Herbert Smale read a joint paper before the British Medical Association on "Some Points in the Bacteriology of Toothbrushes," in which they advocated the sterilization of those articles, because it appeared to them that even in an infected cavity such as the mouth it was preferable that an instrument which is so used that it may scarify the gums should not convey any additional organisms directly into the wound. This paper appears to have attracted some attention in America, and Dr. Carmalt-Jones and Mr. Smale inform us that an American dentist, Dr. Ernest C. Dye, of Greenville (S.C.) has devised a toothbrush which is efficiently sterilized by formalin vapour. It consists of a cylinder closed at one end by an hemispherical cap which contains wool soaked in formalin and kept in place by wire gauze. The other end carries the brush, which is screwed on for use and after use is reversed and screwed inside the cylinder, where it is exposed to the formalin vapour and rendered sterile. A more practical modification is, they consider, the use of a long cylinder in which an ordinary toothbrush can be kept while out of use. If the toothbrush is damp when put into the cylinder all ordinary mouth organisms are killed.

[5] *Medical and Surgical Science: Its Conception and Progress.* By S. Hillier, M.D. Twentieth Century Science Series. Halifax: Milner Company. 1911. (Crown 8vo, pp. 133; plates 6. 1s. net.)

AT the meeting of managers at the Royal Infirmary, Edinburgh, on April 28th, it was intimated that of the 2,862 patients admitted to the wards for treatment between January 15th and April 14th, 1,197 were insured persons; of the 7,966 out-patients treated during these three months 2,535 were insured persons.

DEPUTATION TO THE PRIME MINISTER IN SUPPORT OF THE STATE REGISTRATION OF NURSES.

ON April 28th the Prime Minister received in his private room at the House of Commons a deputation from the Central Committee for the State Registration of Nurses, which was introduced by Dr. CHAPPLE, M.P. The various bodies represented by the deputation were the British Medical Association, the Matrons' Council of Great Britain and Ireland, the Royal British Nurses' Association, the Fever Nurses' Association, the Association for Promoting the Registration of Nurses in Scotland, the Scottish Nurses' Association, the Irish Nurses' Association, and the Society for the State Registration of Trained Nurses. With Mr. Asquith was Mr. Burns, President of the Local Government Board.

Dr. CHAPPLE, in introducing the deputation, said that practically the whole of the institutions connected with nursing and attendance on the sick were represented. Two vested interests were affected by the State registration of nurses; one was that of the unqualified nurses and the other consisted of one or two hospitals which, it was not too much to say, exploited nurses for the financial advantage of the institutions. The training of nurses was as essential as training and skill in the medical profession, and unqualified nurses were just as great a danger to the community and the patients whom they attended as an unqualified medical man would be. The deputation did not ask that there should be any exclusive right to nurse, but simply that there should be a distinction between those who were qualified and those who were not. It was difficult to get young girls to go through a difficult and tedious curriculum unless at the end of their training they were given a status. The public interest should be the first and greatest consideration, and as a medical man he knew no greater danger in the sick room than an unqualified nurse. With the increase of scientific surgery and greater accuracy in medication it was just as essential to have a trained nurse as a doctor who was trained. The various associations represented by the deputation felt that if the Prime Minister could give facilities for a bill aiming at State registration this country would come into line with others which had already passed this reform and had found it very successful both in the interests of the public and the nurses.

Sir VICTOR HORSLEY, who, with Dr. Cox (Medical Secretary), represented the British Medical Association, remarked that four years ago Mr. Asquith very courteously received in that room a deputation consisting almost of the same persons as were now before him. He claimed that the British Medical Association was the only organization which represented the whole medical profession, and that claim was the more justified because there was no record of any resolution having been passed in opposition to the objects of the deputation by any gathering of medical men, any more than of the nursing profession. The situation therefore was unaltered. On the last occasion the Prime Minister told them that the various interests concerned were not unanimous in making their demands, because he held in his hand expressions of opinion in opposition by various medical and nursing authorities. Sir Victor Horsley remarked that he was not aware of any nursing body having passed a resolution hostile to the objects of the deputation. The Prime Minister had indicated on the last occasion that in view of the letters he had received, he could not accede to the request. Nevertheless, the deputation felt its request to be a democratic one because it embodied resolutions passed at various meetings of the societies concerned. It was a democratic request, made constitutionally, whereas the opinions quoted by the Prime Minister were bureaucratic ones, and were put forward unconstitutionally. Those opinions could not be held to represent the views of the medical profession; moreover, they should not be anonymous. Those who asked for this reform asked for it publicly, and the opposition should be public also. On this occasion they found themselves on a stronger footing because since 1909 the Government had re-established the registration of teachers, having recognized that in that profession registration was essential. It was an extremely complicated matter to carry out the registration of teachers; the registration of nurses, on the other hand, was just as simple as the other was complicated. The portals to the nursing profession could be controlled quite easily. Members of the medical profession knew the advantages they gained by registration, and wanted the same advantages for the nursing profession, because the public would benefit. Medical work had now become imperial; they were trying to get reciprocity in this respect with the Dominions. This also applied to nursing, but the Dominions had nursing registration, and their nurses complained because when they came to this country they found they had not the same professional status. That was a just complaint, and one it was hoped Mr. Asquith would see his way to remedy, and that he would, on behalf of the Government, accept the view that State registration of nurses was necessary.

Miss COX-DAVIES, speaking on behalf of matrons and nurses, said it was now twenty years since the Matrons' Council adopted as one of its chief objects a uniform system of education and the State registration of nurses. Urgent as the need was then, it was more so now when demands were made for trained nurses to fill most responsible positions, both as preventive agents and in assisting the medical profession. It was of paramount importance to the community not only that the supply should be adequate but that the members of the nursing profession should be educated for their responsible duties. At present fully-trained nurses found themselves in competition with semi-trained and unreliable persons who were often found unsuitable even for supervised work in hospitals. Miss Cox-Davies alluded to the shortage of nurses experienced by the Metropolitan Asylums Board and reported in the last issue of the BRITISH MEDICAL JOURNAL. She remarked that this experience was general throughout the country.

Lady H. MUNRO FERGUSON, who addressed herself to the general aspects of the question, urged that this was a matter which not only affected doctors and nurses, but the public also. It was practically impossible for a member of the public to be sure of getting a nurse suited to his or her requirement, because there was no standard and nothing to ensure that a particular institution or hospital gave the necessary training. It was no safeguard for the public to pay high fees at a nursing home, for, in the absence of any standard, it was open to any organization to state that its nurses were fully trained. It was not proposed to prevent untrained women from practising; only that the public should have a means of assuring themselves of the services of a fully trained nurse if they required one. The passing of the Insurance Act and the campaign against tuberculosis had made this reform more urgently needed, owing to the fact that in the future nurses would be employed more largely than ever before.

Dr. D. J. MACKINTOSH (Glasgow) spoke on behalf of Scottish nurses. He said he agreed with what other speakers had said, and would merely add that there was no opposition at all in Scotland to the proposals urged by the deputation. They were supported by the whole nursing profession.

Mr. ASQUITH: Is that so?

Dr. MACKINTOSH: So I believe.

Dr. MCGREGOR ROBERTSON (Glasgow) said that the nurses in Scotland had organized themselves as they had not been before, because they all recognized the need for a standard of training and examination, and for State recognition of that standard. He was sent by a very large body of Scottish nurses of many grades and forms of qualification. Amongst that large body there had never been a doubt that the bill now before Parliament was in the highest interests of the nursing profession as well as in those of the public. The bill was practically unanimously supported by the nursing profession in Scotland.

Miss HUXLEY, on behalf of the Irish Nurses' Association, said that fewer well-educated women than formerly offered themselves for entry into the nursing profession, although the advances of medicine and surgery demanded more intelligent and accurate work from the nurses. The absence of a standard was the reason for this regrettable change.

Mr. ASQUITH asked what he or the Government were requested to do.

Dr. CHAPPLE: We want to get your sympathy with the bill now before Parliament.

Mr. ASQUITH: You want us to give facilities for the bill?

Dr. CHAPPLE: We might be satisfied with something short of that.

Mr. ASQUITH: Nothing short of that will be of any use to you. Have you had a second reading?

Dr. CHAPPLE: We have not.

Mr. ASQUITH: Then there is not much chance for it to get through.

Dr. CHAPPLE remarked that it was the unanimous opinion of all those concerned in this question that never before had there been so much sympathy with the objects of the bill exhibited in so many different quarters. They were hopeful that if the Government gave facilities the bill would have an easier passage through the House than on the former occasion.

Mr. ASQUITH, in reply, said he was glad to receive the deputation, although he did not profess to have any special knowledge of the subject; nor, indeed, was he the Minister, or one of the Ministers, responsible for this particular branch of administration. Nevertheless, the subject raised issues which affected the welfare of the community at large, and was one to which he could not be indifferent. It was a question of growing importance that our nursing system should be recruited from the best possible sources, and should be carried on by persons who were more and more qualified for what were now generally regarded as very difficult and arduous duties. All of them in their time had been interested, either as subjects or as spectators, in the operations of a nurse, and he did not suppose there was any profession, unless it was the medical profession itself, in which was needed a more careful and well-adjusted combination of the head, heart, and hand. He understood it to be the view of the deputation that by the machinery which in this bill it was proposed to set up two, at any rate, of these qualities would be better secured; he did not suppose that the third could be affected by legislative means. Mr. Asquith said he had been very much impressed by the arguments brought forward, and he recognized, as no one could fail to do, the representative and authoritative character of the deputation, which, as Sir Victor Horsley very properly said, could claim to speak as the mouthpiece of a number of organizations that had publicly expressed representative opinions on the subject. On the other hand, they would forgive him for saying that Dr. Chapple took too sanguine a view when he thought that the opposition to the proposals now advanced had diminished either in amount or in authority. He gave them on the last occasion a wearisome catalogue of those who were opposed to any change in this matter. The list had been brought up to date, and it was now a more formidable and menacing array than it was before. It consisted, he was informed on the best authority, of ninety-one chairmen of hospitals. Sir Victor Horsley called them bureaucrats, but, after all, they were chairmen of hospitals, and obtained their position by free election on the part of subscribers.

Sir VICTOR HORSLEY: May I explain? I referred to men who are in office. I meant they were not speaking on behalf of the board of management; they are speaking as individuals. We do not recognize them.

Mr. ASQUITH: I am in office, and exactly the same thing might be said of me. He added that there were also amongst the opponents 66 London matrons and 178 provincial ones. They were not bureaucrats.

Sir VICTOR HORSLEY: They are not speaking in the names of their nurses.

Mr. ASQUITH: Presumably they are persons of experience. There are also 1,332 nurses and 340 doctors. I do not say they are right for a moment. I do not say my sympathies, so far as they are worth anything, are not with you, but it is impossible to say, in view of these facts, that there is anything like unanimity in the medical or even in the nursing professions on this matter (because the matrons must be included amongst the most experienced and authoritative section of the nursing profession), or that the measure would not encounter, as I am certain it would, a very vigorous opposition in the House of Commons, and perhaps elsewhere. We are face to face now, as we were four years ago—I wish it were otherwise—with a position in which it cannot be said that substantial unanimity prevails; and while I do not for a moment attempt to controvert or even to criticize your views, or even to say that I do not in a great measure agree, yet, looking at this matter from a purely parliamentary point of view, I cannot say, if the Government gave this measure facilities as compared with measures of its own, that it would have the sympathy of the House and an easy course, and not excite a great deal of opposition. I am obliged to have regard to the exigencies of the parliamentary situation, and I should not be dealing honestly with you if I do not say that until—as very likely you may—by conviction, argument, persuasion, and every legitimate process you have, I won't say completely annihilated, but substantially mitigated that somewhat formidable opposition, which I am sure would make itself articulate and operative in the House of Commons just as it does outside—until this is the case I cannot honestly say I think any Government would give facilities, or, in other words, practically adopt as a Government measure a bill which is of a definitely controversial character. I have spoken quite plainly because it is best to tell the honest truth, but you must not think I am expressing any kind of hostility or want of sympathy. I think it is most desirable that the medical and nursing professions should arrive at a concordat; I do not mean unanimity—you will never get that in this imperfect world—but something approaching unanimity. Whether it is possible by modifying any details of your scheme I am not in a position to say, but it might be desirable to take into counsel or negotiation the more authoritative and representative of your present opponents and see whether it is not possible for you jointly to elaborate proposals which will command the substantial assent of the great body of the medical and nursing professions. If you do that, you will find no more ardent sympathizers than the Government, or any one more desirous of co-operating with you. I am afraid, cold as the comfort may seem, that is all I can say to you at present.

Sir VICTOR HORSLEY: May I ask for the names of the 340 medical men? We have never heard of them; if we had their names we could start on the campaign at once.

Mr. JOHN BURNS: You shall have them.

Mr. ASQUITH: I have the matrons too. He added, in reply to an inquiry whether any opposition under that head came from Scotland, that there was not very much.

Dr. CHAPPLE, in acknowledging Mr. Asquith's advice, remarked that it would be impossible to get complete unanimity on this question. Unanimity could not be secured amongst individuals, especially when those who opposed had vested interests in untrained nurses. For instance, it would be impossible to get the Chairman of the Committee of the London Hospital to support the view of the deputation. The London Hospital only gave a two years' training, which the deputation maintained was absolutely inadequate. Before that time had expired nurses who cost the hospital £28 a year were sent out, and their work brought in a revenue to the institution at the rate of £100 a year.

Mr. ASQUITH: Do you mean to say we do not get good nurses from the London Hospital?

Dr. CHAPPLE: The nurses do not get adequate training.

Mr. ASQUITH: I shall communicate what you said to the Chairman of the London Hospital.

Dr. CHAPPLE: I shall be very glad if you will do so.

Sir VICTOR HORSLEY (to Mr. Asquith): We have absolute unanimity among 40,000 people—doctors and nurses—and we are opposed by a handful of people, who do not even give us their names.

Mr. ASQUITH: Here they are. (At the same time the Prime Minister handed to Sir Victor Horsley certain names which he had before him.)

A vote of thanks to Mr. Asquith concluded the proceedings.

THE fourth Italian Congress of Occupational Diseases will take place at Rome in June (8th to 11th), under the presidency of Professor Guido Baccelli. The following are the subjects proposed for discussion: Ankylostomiasis, diseases of the blood of professional origin, infant mortality in relation to the occupations and social conditions of the parents, forms of dermatitis of professional origin, professional pathology of railway employees.

THE PARLIAMENTARY COMMITTEE ON PROPRIETARY MEDICINES.

THE ADVERTISEMENT OF MEDICATED WINES IN THE MEDICAL PRESS.

AT the commencement of the sitting on April 24th, the Chairman (Sir Henry Norman) said the Committee had received a letter from Dr. Cox with reference to certain answers given before the Committee on March 27th by Mr. W. Rudderham on behalf of the proprietors of Wincarnis (BRITISH MEDICAL JOURNAL, April 5th, p. 725). Dr. Cox recalled that the witness was questioned by Mr. Lawson as to the conditions under which the advertisements of Wincarnis were withdrawn from the medical press, and the impression conveyed by the evidence was that no objection was raised to the acceptance of the advertisements by those responsible for the conduct of the BRITISH MEDICAL JOURNAL, but that the advertisement was withdrawn by the proprietors for "ordinary commercial reasons." Dr. Cox said that this statement was misleading and not in accordance with facts as far as the JOURNAL was concerned. When the contract for the advertisement expired the manager was instructed by the Council to decline to accept in the meantime any advertisement for Wincarnis, or for any other medicated wine of the same kind. On September 22nd an order was tendered for thirteen insertions of an advertisement of Wincarnis, and this was not accepted. Dr. Cox added that he had the authority of the manager of the *Lancet* to say that the *Lancet* definitely refused the advertisement of Wincarnis some time before the BRITISH MEDICAL JOURNAL.

Mr. Harry Lawson: Of course it will be open for rebutting evidence to be given?

The Chairman: Obviously the Committee will receive any statement which Mr. Rudderham desires to make.

THE ANALYSES IN "SECRET REMEDIES."

Mr. E. F. Harrison, the consulting analyst engaged by the British Medical Association in connexion with the analyses in *Secret Remedies* was then recalled, the Chairman remarking that he appeared both by his own desire and that of the Committee. Mr. Harrison said that what he wished to say fell under three divisions: First, some of the evidence in regard to the contents of the *British Pharmacopoeia*, and the qualifications of an analyst competent to deal with medicines, was, in his opinion, misleading; secondly, he wished to deal with some of the evidence which appeared to be intended to convey that the articles mentioned in *Secret Remedies* and *More Secret Remedies* had not any considerable sale; thirdly, he would discuss the analyses that had been challenged.

With regard to the *Pharmacopoeia*, the impression apparently left upon the minds of the Committee by the evidence of Mr. Umney was that only 44 out of 235 vegetable preparations in the *British Pharmacopoeia* could be discovered.

Mr. Glyn-Jones: Mr. Umney used the phrase, "by chemical analysis."

Mr. Harrison proceeded to criticize the way Mr. Umney and Mr. Parry used the terms "discover" and "determine" in an analytical connexion. He said that the number 44 was nowhere near the truth unless, when Mr. Umney spoke of their being "determined," he meant "quantitatively determined." The number of drugs which could be identified when in the form of their preparations had nothing to do with the number of those which could be quantitatively determined.

Mr. Lawson at this stage raised a point of order. He suggested it was unusual to have detailed replies to other witnesses by witnesses who had been already in the box, because it led to an interminable series of rebuttals. He thought that whilst it would be quite in order for the witness to refer to matters in a general way, it would be a great mistake for the Committee to allow any witness to enter into detail question by question. Obviously it would be necessary to recall the witnesses challenged.

Sir Philip Magnus (who was in the chair at the time) thought there was a great deal in what Mr. Lawson said. At the same time Mr. Harrison was a very important witness, and many of his statements had been controverted by Mr. Umney. In the interests of the Committee, it was very desirable that Mr. Harrison should have an opportunity of rebutting statements which he considered to be incorrect. To do this it would be necessary to go into them in some detail. After Mr. Harrison's statement, if Mr. Umney thought it important that he should be called again, the Committee would have to give him an opportunity of reappearing. That should entirely close the arguments for and against.

Mr. Lawson suggested that Mr. Harrison's evidence should be confined to a few of the main points which required reply.

Mr. Newton remarked that Mr. Harrison appeared to be dealing at the moment with the misuse, or varying use, of a certain term by previous witnesses.

Mr. Glyn-Jones said there was no denying the importance in the present investigation of the two books for which Mr. Harrison was in the main responsible. He felt it would be necessary to put definitely to Mr. Harrison the various allegations of error.

Mr. Harrison proceeded to deal with the number of vegetable preparations in the *British Pharmacopoeia*. Mr. Umney spoke of 235. There were only 160 separate and distinct vegetable drugs in the *Pharmacopoeia;* it was, perhaps, an arguable question what should be counted a preparation of a drug, and, according to his counting, there were 301 galenical preparations of vegetable drugs. Whatever the principle upon which Mr. Umney made his selection of these, it was clear that different preparations of one drug were counted as different articles. He had roughly arranged the different vegetable drugs in the *Pharmacopoeia* in five classes as follows: (*a*) Those containing definite constituents capable of being determined by chemical means, 36; (*b*) those containing constituents readily recognizable by physical means—taste, smell, colour, etc.—with or without chemical tests as well, 48; (*c*) drugs of little or no therapeutic activity, used chiefly as excipients, or suspending, flavouring, or sweetening agents, 13; (*d*) drugs which could be detected, but might not be completely identified, 28 (in this class examination might only show that the substance being tested was one of three or four, without enabling the analyst to say exactly which); (*e*) drugs which would probably not be detected when in the form of their preparations, 26. The other respect in which Mr. Umney's evidence on this matter seemed to be misleading was his repeated implication that an analyst was limited to chemical tests, and was debarred from other methods, such as the use of taste and smell, which were available to Mr. Umney. Mr. Harrison then began to quote Mr. Umney's statement that a consulting analytical chemist could not get the knowledge arising from handling, tasting, and smelling drugs, which came to one engaged in the drug trade.

Mr. Lawson thought it would be most objectionable to have matters of personal controversy brought to the notice of the Committee.

Sir Philip Magnus: I think you desire to point out that the analyst responsible for these analyses had that additional knowledge and capacity of detecting drugs?

Mr. Harrison agreed, and said that it was not a question of personal rivalry between himself and other witnesses. His point was that he spent many years gaining pharmaceutical experience in the wholesale manufacturing houses, and exactly the kind of experience that Mr. Umney mentioned. He had some other remarks as to actual qualifications; he thought that some of the evidence on this point was rather misleading, but he would leave it alone if the Committee desired.

As to the extent of the sale of the articles in the two volumes, Mr. Waring and Mr. Barclay both stated that they were ignorant of a large proportion of the remedies mentioned, but as to this Mr. Harrison pointed out that the books included sixty German nostrums. These appeared to be of sufficient interest to be included, but it had never been suggested that they had any appreciable sale in this country, and they occupied very little of the two books, though numerically they were considerable. Another large proportion of the remedies mentioned was distributed through the post, and therefore would not be known to the two witnesses he had named. The witness mentioned a case in which he wrote to Barclay's for a medicine for analysis, and received a letter from the firm stating that the maker would not supply through them, but only direct. Also a number of the articles in the two books probably

had chiefly a local sale; such medicines were commonly quite numerous, but it was thought best to include a certain number of them as representatives.

Passing on to the allegations of inaccuracy in the analyses in *Secret Remedies*, Mr. Harrison said he did not feel called upon to defend his reputation in this matter. When he was before the Committee on the first occasion he insisted on the limitations of what analysis could do. The fact that Mr. Umney had found ingredients which he (the witness) had not found would not be held to be final proof that they existed in the preparations he analysed. That was not a mere academic point; there was very strong evidence in some cases of alteration of formulae, intentional or otherwise. Mr. Harrison recalled that some of the witnesses had admitted that variations in the formulae had occurred; he had compared two bottles of Seigel's Syrup, and found there was undoubtedly far more capsicum in one bottle than the other. Other instances were referred to in *Secret Remedies*. The maker might put forward statements in good faith which nevertheless must be received with scepticism; for example, Mr. Lawson said in his evidence: "The statement in *Secret Remedies* that the weight of a Daisy powder is 6 grains would show that the analyst must have examined a very old packet. The dose had been 5 grains for at least nine years." The packet in question was bought from Barclay's in April, 1906, and it was hardly likely that they had kept it in stock for over two years.

Detailed Reply to Alleged Inaccuracies in Analysis.

Mr. Harrison proceeded to deal in detail with each of the cases in which inaccuracy of analysis was alleged in *Secret Remedies* and *More Secret Remedies*. In regard to Seigel's Syrup, Mr. Harrison quoted Mr. Umney's statement that it was not possible to separate the special vegetable ingredients, except by very long processes, and that he had determined the total solid extractive matter and then deducted from that the amount due to saccharine bodies. He took this to mean that Mr. Umney had determined the total solid matter, and also the total saccharine matter or sugars, and, having deducted the latter from the former, he regarded the difference as the "special vegetable extracts" added in making up the medicine. Treacle, however, contained a proportion of non-saccharine extractive, which varied very much. The formula of Seigel's Syrup given in *Secret Remedies* gave 60 parts of treacle in 100 parts by measure, and he believed it had not been alleged that this proportion was incorrect. The evidence given on behalf of the proprietors was that 181 lb. of extracts went into 230 gallons of the syrup, which was 7.9 parts in 100 parts by measure, so that if Mr. Umney regarded the quantity of the total solids minus the sugars as evidence of the amount of extracts added, and was satisfied at finding the proportion stated by the proprietors to be added, more than this quantity would be accounted for by the non-saccharine solids of the treacle, and there was therefore no analytical evidence as to the amount of extracts present.

Mr. Glyn-Jones: Is this important in view of the fact that eleven vegetable extracts are stated to be in the preparation, and Mr. Umney and Mr. Parry both definitely say they have found some? Is not the important thing whether you are prepared to say that those ingredients which they say they found are or are not present? Are you prepared to say that?

The Witness: Certainly not; but what I want to come to is that there is no evidence to show that this case is not covered by what I said before—that a maker might put in a small quantity of a large number of extracts, and an analyst cannot find them. In this case the non-saccharine matter of the treacle is so large that it would more than account for the extractive. If Mr. Umney relied on that he could not say anything about the quantity of the extracts, and there is no analytical evidence on the point.

The Chairman: You admit they may have been there?—Certainly.

As to Clarke's Blood Mixture, Mr. Harrison suggested that the criticism raised in this case was quite frivolous. It was stated that the ammonia was not there as aromatic spirit of ammonia, but since the ammonia and the alcohol were admittedly there it seemed quite immaterial whether they were added together in the form of sal volatile or not. The amount of sal volatile stated would contain about one-thirtieth of a grain of oil of nutmeg and one-twentieth of a grain of oil of lemon, and it would hardly be seriously suggested that these quantities in a bottle of sixteen doses were of any consequence at all.

With regard to Woodward's Gripe Water, he had a small quantity left of the supply of this which he had tested, and after reading the evidence given he tasted it again and was prepared to admit that it contained a trace of the pungent aromatic substance which had been named privately to the Committee. The amount was so minute that the Government analyst reported it as a trace of capsicum resin. Nevertheless there was a well-known test for distinguishing them, showing presumably that the quantity obtained was too minute for this test to be applied. Mr. Umney called this trace of the unnamed substance "the most important ingredient," and much was said about its value by Mr. Woodward. Mr. South and Mr. Hake had asserted, in regard to another infants' medicine, that the presence or absence of a trace of the far more potent drug, opium, was immaterial. This well illustrated what he had said in his former evidence—that so long as a proprietor could keep a medicinal ingredient secret, he could and did make very large claims for its medicinal value.

As to Mr. Parry's evidence in regard to Beecham's pills, that he found one ingredient after its name had been disclosed to him by the makers and another without such disclosure, Mr. Harrison remarked that it did not appear that the presence of the latter was confirmed by the makers; and as for the test suggested by Mr. Parry, the appearance, smell, and taste, and behaviour on putting into water—all these characters might be affected by differences in the excipient or non-medicinal ingredients of the pills.

In reply to Mr. Glyn-Jones, the witness said he was not prepared to say that the ingredients mentioned by the other witnesses were not there, but he insisted that if there they were only present in small quantity; further, the tests described by Mr. Parry really amounted to nothing.

As to Doan's dinner pills, the witness pointed out that in *Secret Remedies* the pills were only stated to contain "a resin that appeared to be jalap resin," and "an extract that resembled extract of henbane." No more definite statement was made. The absence of conclusive tests for the last-mentioned ingredient was expressly mentioned, and the formula given was only stated to give a similar pill. There was, therefore, nothing surprising in Mr. Parry's statement, made with a full knowledge of the formula.

As to Ozerine, Mr. Harrison said that he did not make this analysis. The six articles dealt with in Chapter XIII of vol. i were analysed before he took up the work by a gentleman who was now dead. He was a very competent chemist and pharmacist, and it was unlikely that he made any mistake in analysing a simple mixture, chiefly of inorganic salts, like this one. Mr. Parry had told the Committee that two other ingredients were there; Mr. Harrison did not think they could have been present in the batch examined by the deceased analyst.

As to Pond's Arthriticus, Mr. Harrison quoted Mr. Parry's statement that an important constituent was omitted from the analysis in *More Secret Remedies*, which he found to be present to the extent of nearly 10 per cent., and this he had identified chemically. That would amount to a very serious allegation indeed, but, in reply, Mr. Harrison said he had been informed by a gentleman (who was prepared to substantiate the statement before the Committee) that the principal ingredient was formerly potassium acetate, but that a batch was made and sent out without any potassium acetate. The gentleman making this statement was at that time a director of the company manufacturing the medicine. In the light of Mr. Parry's statement, he had carefully gone through his analytical results again, and could affirm without any doubt that the mixture he analysed did not contain any appreciable quantity of this substance or anything else but the ingredients given on page 13 of *More Secret Remedies*. This case illustrated the fact that Mr. Parry, in assuring the Committee that formulae were not altered, was speaking of matters not wholly within his cognizance.

Similarly, with regard to Johnson's Soothing Syrup, Mr. Harrison pointed out that whereas Mr. Parry found only a trace of sodium chloride, he found 5.7 parts in 100 parts by measure. He did not think Mr. Parry or any one else would suggest that he was incapable of determining sodium chloride correctly, or that "a trace" could possibly be mistaken for 5.7 per cent. The inevitable conclusion, therefore, was that Mr. Parry and he were examining liquids of very different composition. Nevertheless, he must protest against Mr. Parry's suggestion that, having found certain things, he "jumped" to a conclusion. Mr. Parry added that this was what he himself would probably have done. Without disputing that statement, Mr. Harrison said he did not jump to a conclusion, and the assumption was quite gratuitous.

Mr. Glyn-Jones referred to a description in the BRITISH MEDICAL JOURNAL of this preparation, stating that it was a preparation for rubbing on children's gums which contained hydrochloric acid. The witness said the JOURNAL was not to blame for making that statement; it was guided by the analysis in *Secret Remedies*. He agreed as to the possibility of the preparation containing lemon juice, saffron, and tolu, but he found it hard to account, on that basis, for the amount of acid he found.

Mr. Cawley: Is it your opinion now that your original analysis was right?

The Witness: Yes, I think on the balance of probability it is. At any rate, very nearly right.

Mr. Harrison dealt in passing with this comment on himself in Mr. Parry's evidence: "I have verified that he jumped to the conclusion, because there was an alkaloid present in Marza wine and it was labelled 'coca wine,' that it must have been cocaine." Mr. Harrison said he jumped to no such conclusion; the words of his report were: "The alkaloid was bitter, and caused numbing when applied to the tongue . . . its solution showed the fluorescence characteristic of quinine or quinidine." That was a plain record of observed facts, and cocaine was not even mentioned. Mr. Parry was therefore going beyond what was justifiable in speaking in that way.

With regard to Ciefa, as to which Mr. Parry stated the ingredient which Mr. Harrison called diastase to be a much more expensive article, Mr. Harrison said he knew of no means of distinguishing in such a mixture between the diastatic ferments, diastase, ptyalin, and taka-diastase, and he knew of no difference in their physiological action except the quantitative one. As the activity was determined quantitatively and recorded, it appeared quite immaterial that the name "diastase" was used. If a price had been given for the ingredients based on the assumption that the cheaper substance was present when actually the tablets contained the dearer, there might have been some cause for complaint, but in this case as in others when the results did not allow of fairly exact pricing, no price was mentioned.

As to Powell's Balsam, the fact that Mr. Parry found no alkaloid had no bearing on the fact that he found a trace in another sample of the medicine some years previously. It was not denied that the composition of this medicine had been altered at least once. As to Mr. Hake's statement that an ingredient not mentioned in the analysis of Steedman's powders contained a minute proportion of an alkaloid, the analysis in *Secret Remedies* stated that a minute amount of an alkaloid was present, so that the only omission appeared to be that the drug from which it was derived was not named. He thought it likely that the drug in question was powdered ipecacuanha; without a prior knowledge it would not be readily detected in the presence of the large proportions of maize starch and calomel. As the powders in one packet were found by him to vary in weight from 1.9 to 4.5 grains, pointing to extreme carelessness in putting up, it was not unreasonable to suppose that there might have been some carelessness in mixing, and that the powders examined by him might have contained even less of this ingredient than the quantity intended to be present.

In reply to Dr. Lynch, who pointed out that in some of the cases in which preparations analysed in *Secret Remedies* were submitted to the Government analyst the results arrived at varied considerably as compared with Mr. Harrison's, the witness said it did not follow that either of the analyses was incorrect; it was clear evidence of variation of composition. When the analyses in *Secret Remedies* were made, he had not in view such a searching inquiry as this; had he foreseen it, he would not have exercised more care, but he would probably have operated on larger quantities of materials. The analyses were made in the first instance for the information of medical men, to give them as accurate an account of the composition of proprietary medicines as could be done with a reasonable expenditure of time. If the work had been done for the purposes of the Committee it would have been justifiable to have taken longer, and to have used far more of the medicines.

Sir Philip Magnus: Then your results would have been a little more accurate?

The Witness: They would have been a little more full—more accurate in that sense.

In reply to Mr. Cawley, the witness said that, in regard to Woodward's gripe water, he was quite satisfied, whatever the missing substance was, its amount was very minute.

Mr. Lawson: Do you find, in the case of preparations made up by chemists according to the *Pharmacopoeia*, variation to a greater or less degree?

The Witness: The *Pharmacopoeia* allows variation, and then after analysis standardization.

Mr. Glyn-Jones suggested to the witness that it would have been more in keeping with what was fair if the British Medical Association had submitted the material in the second volume of *Secret Remedies* to the Committee instead of publishing it.

The Chairman (Sir Henry Norman) said the witness must consider if he felt justified in answering for the British Medical Association.

The witness said that personally he saw nothing unfair in it, especially as all the matter was before the public in the JOURNAL, but was only rendered more accessible by the volume.

Mr. Glyn-Jones: Would it not have been fairer to have withheld it from publication until the proprietors had had an opportunity of answering before the Committee?

The Witness: That point I was never called upon to consider, but in my own opinion it was perfectly fair to publish it at the time it was published.

The Chairman: It may have been for the convenience of the Committee.

Mr. Harrison: That was certainly so. I pressed on the compilation of the second volume for the sake of putting it before the Committee.

Sir Henry Norman: Do I understand that you still maintain, in spite of all criticism, the substantial accuracy of the analyses in these two volumes?

The Witness: Yes; the perfect accuracy of a very large number and the substantial accuracy of, at any rate, the large majority of the remainder.

In reply to further questions by the Chairman, the witness reiterated his earlier statements of the limitations of analysis, and agreed with the Chairman's suggestion that it was possible for any one to add to a mixture of drugs a small quantity of vegetable substances and claim that analysis was impossible. There was nothing in the limitations of scientific analysis, if the Government decided to set up an analytical bureau, to prevent such a bureau from deciding upon the nature of medicines submitted to it. It would find some of the limitations he had referred to already, but as regards essential ingredients the limitations would be small.

THE PHARMACEUTICAL SOCIETY.

Mr. C. B. Allen, President of the Pharmaceutical Society, described the work and methods of the Pharmaceutical Society in connexion with the Poisons and Pharmacy Act. He remarked that, although the organization was a purely voluntary one, it had performed an immense volume of work, as much in the interests of public safety as for the benefit of its members. It might be supposed that the Pharmaceutical Society would be in possession of important rights and privileges in return for its earnest work, but this was not the case, and apart from certain provisions in the Insurance Act, there had been practically no State recognition of a vocation for which men undertook a laborious training.

SEVENTEENTH INTERNATIONAL CONGRESS OF MEDICINE, 1913.

SECTION OF MEDICINE.

THE President is Sir William Osler, Bart., and the honorary secretaries Dr. John Cowan (Glasgow), Dr. Lovell Gulland (Edinburgh), Dr. A. R. Parsons (Dublin), and in London, Dr. A. E. Garrod, Dr. W. Pasteur (acting secretary), Dr. H. D. Rolleston, and Dr. W. Hale White.

The meetings of the Section will be held at the Royal Society of Medicine, 1, Wimpole Street, and its work will comprise (1) discussions, (2) selected papers, (3) a clinical museum, and (4) demonstrations of clinical apparatus, methods, etc. The following discussions have been arranged:

August 7th: The Clinical Aspects of Haemolysis. Reporters: Professor G. Banti (Florence) and Professor F. Widal (Paris).

August 8th: Correlations of the Organs of Internal Secretions and their Disturbances. (Jointly with Section II, Physiology.) Reporters: Professor E. Gley (Paris), Professor Dr. Baron Alex. von Koranyi (Budapest), and Professor Dr. Frederick Kraus (Berlin). Drs. Bernard, Carnot, and Claude (Paris), Biedl and Falta (Vienna), Hedon (Montpellier), Meltzer (New York), and Ferrannini (Camerino) have intimated their intention of taking part in the discussion.

August 9th: The Pathology of Heart Failure. Reporters: Professor H. Vaquez (Paris), Professor Dr. H. F. von Wenckebach (Strassburg).

August 11th: Diabetes. Reporters: Professor George Dock (St. Louis, U.S.A.) and Professor Dr. Karl von Noorden (Vienna).

August 12th: Differentiation of the Diseases included under Chronic Arthritis. Reporters: Professor L. F. Barker (Baltimore, U.S.A.) and Professor Dr. Freidr. von Müller (Munich).

The afternoon sittings will be devoted to the reading and discussion of independent papers. Among many already promised the following may be mentioned:

Treatment of leukaemia with benzol (A. von Koranyi). Treatment of pulmonary tuberculosis by artificial pneumothorax (Ch. Saugman). Insuffisances pluriglandulaires (H. Claude, Paris). Der augenblickliche Stand der Diagnosis der Pancreas-Erkrankungen (F. Wohlgemuth, Berlin). Chronic bacterial endocarditis, with a series of preparations illustrating the condition from the Pathological Museum, Mount Sinai Hospital, New York (E. Libman). The recognition of the status lymphaticus in adults (Haven Emerson, New York). Diagnosis and treatment of duodenal ulcer (Max Einhorn, New York). A modified form (?) of sporadic typhus, Brill's disease (Brill, New York).

Demonstrations of clinical cases of special interest will be held in connexion with the morning and afternoon meetings of the Section, and a strong committee has been formed to bring together the best available material for this purpose. Facilities will also be given to any member of the Section who wishes to demonstrate any new clinical apparatus or clinical method. All applications should be addressed to the Acting Secretary, Dr. W. Pasteur, 4, Chandos Street, Cavendish Square, W.

The dinner of the Medical Section will be held at the Connaught Rooms on Friday, August 8th. For information about the dinner, members of Congress are requested to apply to the Secretary of the Dinner Committee, Mr. George Bethell, 11, Chandos Street, Cavendish Square, W.

SECTION OF SURGERY.

The Surgical Section will meet under the presidency of Sir W. Watson Cheyne, Bart., F.R.S.; connected with it are the subsections of Orthopaedics, presided over by Mr. Robert Jones of Liverpool, and Anaesthetics, with Dr. Dudley Buxton in the chair.

The meetings of the principal section will take place in the large lecture theatre on the ground floor of the Imperial College of Science and Technology.

The list of set subjects for discussion are: (1) The operative treatment of malignant disease of the large intestine, excluding the rectum, introduced by Professor Bastianelli of Rome and by Professor Körte of Berlin. (2) A discussion, conjointly with the Section of Neuropathology, on the treatment of tumours of the brain and the indications for operation. Professor Bruns of Hanover; Professor Harvey Cushing of Harvard University; Professor von Eiselsberg of Vienna; and Dr. Howard Tooth will speak. (3) A discussion on the diagnosis and treatment of early renal and vesical tuberculosis will be held jointly with the Section of Urology. It will be introduced by Professor Legueu of Paris; by Professor Rochet of Lyons; and by Dr. Wildbolz of Berne. (4) The surgery of the arterial system will be reported upon by Professor Matas of New Orleans and Professor Oppel of St. Petersburg. (5) Intrathoracic surgery will be considered on the last day of the Congress by Professor Sauerbruch of Zürich and Professor Tuffier.

Papers will also be read by individual members. Many have already been received, but it is noteworthy that they all come from abroad, and no English surgeons have yet offered any contribution. There seems, too, to be some ill-defined idea that the Section is a gathering of London surgeons who are inviting their colleagues from other countries. This is in no sense true. It is the surgeons of the United Kingdom who are endeavouring to make an international congress as truly representative of British surgery as is possible. The vice-presidents, the council, and the secretaries of the Section have been chosen, therefore, with a due regard to representation of surgery in England and the provinces, in Scotland, Ireland, and His Majesty's oversea dominions.

The Social Side of the Section.

The sectional work of the social side of the Congress is also in an advanced state of preparation, thanks largely to the energy of an influential Ladies' Committee under the direction of Lady Watson Cheyne. It is proposed, amongst other things, that a party of one hundred surgeons and their wives shall be shown round the University of Cambridge on Saturday, August 9th, where they will be received by Mr. Howard Marsh, the Master of Downing College, who is also Professor of Surgery in the University. By the kind permission of the Master and Warden of the Company there will be a personally-conducted party of seventy surgeons and their wives or daughters to Barbers' Hall, which owing to its position in the City is rarely visited. The hall is interesting from its historical associations, as well as its architecture and art treasures. It has remained on the same spot for at least nine hundred years, and thus represents the cradle of English surgery. No sectional dinner will be held, but this omission will be more than supplied by the offers of private hospitality which have already been received. The Hon. W. F. D. and the Lady Esther Smith have invited members of the Section to a garden party at Henley, and the Ladies' Commiteee will hold an afternoon reception in the Botanical Gardens.

THE SIGHT TESTS OF THE BOARD OF TRADE.

THE following statement has been sent to us for publication:

We, the undersigned, are of opinion that the sight tests of the Board of Trade are not satisfactory for the following reasons:

1. The types used in the form vision test should be printed on a smooth flat surface, preferably white porcelain, and not on a roll of canvas which has to be held down by the examiner.

2. The wool test for colour blindness is not an efficient test.

3. Any lantern used for testing for colour-blindness should have means for regulating the luminosity of the lights shown.

(Signed)

ANDERSON CRITCHETT.
J. B. LAWFORD.
WALTER H. JESSOP.
E. TREACHER COLLINS.
PERCY C. BARDSLEY,
C. DEVEREUX MARSHALL.
N. BISHOP HARMAN.
H. H. B. CUNNINGHAM.
BERNARD CRIDLAND.
R. J. COULTER.
CYRIL H. WALKER.
SYDNEY STEPHENSON.
PRIESTLEY SMITH.
F. R. CROSS.
J. GRAY CLEGG.
W. T. LISTER.
S. JOHNSON TAYLOR.
RICHARD R. CRUISE.
GEORGE MACKAY.
RAYNER D. BATTEN.
F. M. GRANGER.
HENRY E. JULER.
J. H. TOMLINSON.
W. B. INGLIS POLLOCK.
ELMORE BREWERTON.
W. ADAMS FROST.
J. BURDON-COOPER.
ARTHUR GREENE.
ERNEST CLARKE.
W. LANG.
F. W. EDRIDGE-GREEN.

A DEPARTMENT for the treatment of hydrophobia has just been added to the International Hygienic Research Institution in Jerusalem. Hitherto patients have had to be sent to Cairo.

THE ETHICS OF ANTIVIVISECTION.

ANTIVIVISECTIONISTS profess to act up to a higher standard of ethics than the ordinary moral law accepted by the rest of mankind. When they cannot deny that knowledge useful for the relief of man and the cure and prevention of disease has been obtained by experiments on animals, they reply that this is no justification of that method of research. "The whole question of man's rights and duties towards the helpless animals given into his dominion by the Ruler of the Universe is," Mr. Stephen Coleridge told the Royal Commission on Vivisection, "a moral question, and has nothing to do with science." By parity of reasoning it might be held that the killing of animals for food and raiment, the infliction of acute suffering on them for personal adornment, and their mutilation for various purposes that have nothing to do with their own good, are moral questions that have nothing to do with any real or supposed benefit to man. In regard to these things, however, the ordinary antivivisectionist is usually content to accept the benefits without allowing inconvenient ethical scruples to interfere with his convenience.

It is far better, Mr. Coleridge said on the same occasion, to do without physiology than to be without pity. This, if it stood alone, would be a truism; but in the mouth of the antivivisectionist it means that a sentimental pity for animals should override all active pity for suffering human beings. It is not strange, therefore, that many antivivisectionists are not only hostile to the advance of knowledge by experimental research, but are by no means remarkable for good nature and consideration for the comfort and feelings of their fellow creatures. Miss Frances Power Cobbe made the strange boast that she loved animals by nature, and her own kind only by grace. We need only glance at their literature to see how they strive to wound not only the "wicked" vivisector, but those of their own side, if they happen to differ from them on some point of detail, or seem to threaten to displace them in the eyes of the public.

A fierce light is thrown on the manner in which some of the antivivisectionists apply the ethical principles on which they profess to take their stand by the following incident.

In a letter circulated in the press and reprinted in the *Zoophilist* of September, 1912, Mr. Stephen Coleridge gave an account of a visit he had himself paid to the Physiological Institute at University College. He said that he had frequently been taunted with refusing invitations to visit laboratories and see for himself how happy are the animals therein vivisected. He had never accepted such invitations, because, he said, he regarded them as similar to the invitation of a motorist to a policeman to drive in his car and observe that he never exceeded the speed limit. He did not imagine that animals would be in visible agony when he arrived by invitation. A surprise visit, however, he regarded as similar to a police trap on a straight piece of road, and that was the test he proposed to institute at University College Laboratory. The circumstances which led Mr. Coleridge to depart from his fixed policy of declining to see things for himself are set forth as follows:

> On the 18th of October, 1911, I received a letter from a reputable source complaining of the dreadful sounds of the howling of dogs in suffering that were constantly to be heard in the neighbourhood of the laboratory attached to University College in Gower Street. Having first sent others to ascertain whether these complaints were well founded, and having received confirmation of them, I determined to visit the neighbourhood myself. Accompanied by Mr. Arthur Veasy, I went to some premises behind the college, and from the windows myself heard the dreadful cries of the dogs. The pitiful howlings seemed to me to indicate that the wretched animals were enduring miseries more poignant than the mere discomfort of confinement. With the desire and intention of ascertaining personally whether or not I was mistaken, and in order to give those responsible for the laboratory the opportunity of showing me that I was wrong in attributing these mournful cries to physical pain, I went over to the college with Mr. Veasy, and, with the assistance of two courteous students, was guided to the foot of the stairs, at the top of which was the door into the laboratory.

Mr. Coleridge goes on to say:

> That there might be no subsequent dispute as to why I came and what I asked, I sent up my card with the following note, a copy of which I kept:
>
> "February 21st, 1912. Mr. Stephen Coleridge requests permission to go over the laboratory of University College, registered under the Act 39, 40 Vic., cap. 77, for experiments on living animals."

Mr. Veasy and he awaited a reply at the landing next the door, a view of which they commanded. The rest is better told in his own words.

> In a very few moments there emerged a person whom I deemed to be one of the twenty-one licensed vivisectors who are attached to this laboratory, followed by four or five of his pupils. This person, a small man in a brown holland pinafore, appeared to be labouring under an access of violent excitement. I think he feared that I had come with the intention of making an entry by force, and was desperately determined to prevent it, assisted by his students, who were more stalwart and more composed than himself. He proceeded to display the manners and the temper of a vivisector. "How dare you come here, sir?" he vociferated several times, while I regarded him with amused patience. "You don't wish to show me over the laboratory?" I replied. "Certainly not!" he spluttered; "get out of this; get out!" "Would you like to know why I came?" I asked. "No," he cried; "I won't listen to you. Get out!" "By all means," I said; "I will get out, but I should like to know your name." "Starling is my name," he replied. "Ah!" said I, "I remember having the pleasure of seeing you in the witness-box in Mr. Bayliss's action."

The pleasure of a sight which recalled this incident was probably not altogether unmixed, and the "amused patience" of Mr. Coleridge during the interview on the stairs did not leave him sufficiently cool to prevent his confusing the "small man in a brown holland pinafore" with Dr. Starling, who spoke to him and who was dressed in blue serge. There the interview ended. Mr. Coleridge concludes as follows:

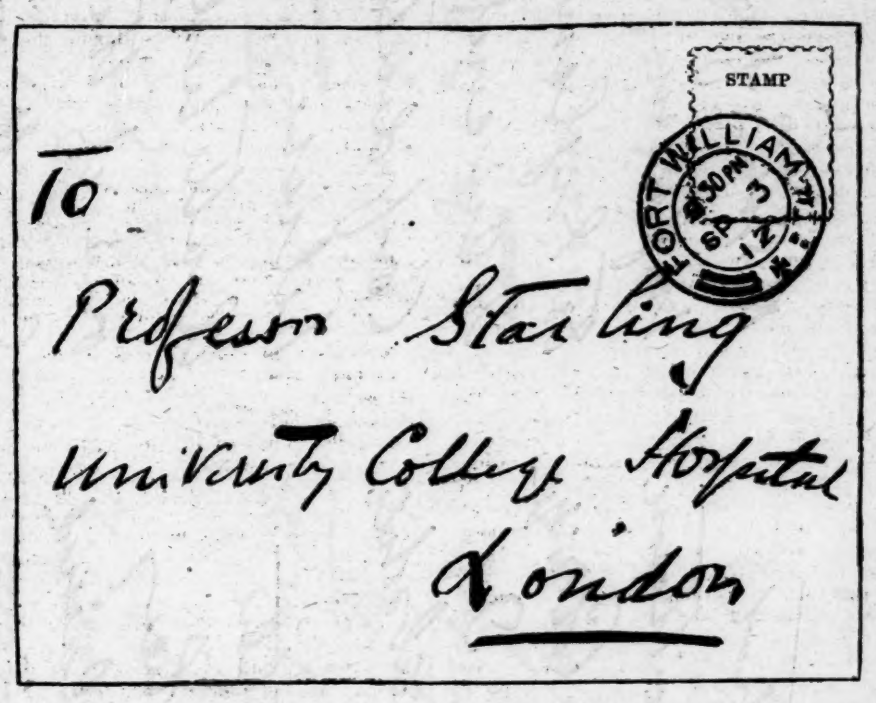
> I make the obvious and necessary and conclusive deduction from Professor Starling's conduct throughout this transaction that he feared to admit me to the laboratory because he knew what I should find there, and because if admitted instantly I should have come away from the spectacle armed with ocular demonstration that the dreadful cries which I had heard emanated from dogs whose dolorous clamour was caused by the wounds in their bodies inflicted on them under certificate B.

Mr. Coleridge professes to be shocked at a split infinitive—perhaps because the operation is performed without an anaesthetic. We suppose, therefore, the mixture of metaphors here must be set down to excitement. One would like to have seen him leave the laboratory "armed with ocular demonstration" of dreadful cries. The sentence reminds one of Bottom's question whether Theseus would like to *see* the epilogue or hear the Bergamask dance. Ocular demonstration of cries, however, is the kind of proof that seems to satisfy antivivisectors. But how was it, if dreadful sounds of dogs in suffering were constantly to be heard, that Mr. Coleridge did not see them when he was actually on the threshold of the chamber of "torture"? It may be added that even if Mr. Coleridge had seen anaesthetized dogs with wounds in their bodies inflicted on them under certificate B, and had had "ocular demonstration" of cries, this would not have proved that the animals were suffering. If he would go into an operating theatre in any hospital he could scarcely fail to hear dolorous clamour from patients under the knife, who yet will tell him when they recover from the anaesthetic that they had felt nothing whatever. The "obvious and necessary and conclusive deduction" to be drawn from Professor Starling's conduct throughout the transaction, taking Mr. Coleridge's account as strictly accurate, is simply that a busy man objected to being disturbed by one who has reviled him for years and who, it was natural for him to assume, did not come with the intention of seeing impartially, but with the wish to find some semblance of justification for his unfounded charges. Can it be supposed that a man with a mind so biassed as Mr. Coleridge could have gone to the laboratory with any other intention than to find fault? We say nothing of Mr. Coleridge's language further than to suggest that he might ponder in his heart the following words of a French writer: *Il est si facile d'être insolent! C'est un art qui demande peu d'étude, qu'on possède de naissance, et où les plus sots excellent, une musique qu'ils chantent d'inspiration, à livre ouvert.*

That Mr. Coleridge's description of what took place is grossly exaggerated is shown by a letter from Professor Bayliss, dated August 27th, 1912, which appeared in the *Yorkshire Post*. He says he happened to be passing

during the interview spoken of by Mr. Coleridge and heard the reason given to him why he was not shown over the laboratory. It was this: "You have done all in your power to hinder us in our work here, and you are requested to leave at once." In a further letter published in the same paper of September 2nd, Professor Bayliss says the time at which Mr. Coleridge appeared was by no means inopportune, as all the workers in the laboratory were at tea, and no experiments were being made. He goes on to say that: (1) Visitors capable of understanding what they saw would be admitted at any time without giving notice. (2) Any unprejudiced person would be welcomed. But, he asks, what would be gained by admitting people who had already made up their minds with respect to what they would see, and would see exactly what they wished to see? (3) He adds: "The falsity of Mr. Coleridge's description of University College laboratory was shown in the court of the Lord Chief Justice, and in consequence of this he had to pay damages of £2,000."

Though this may be the first time Mr. Coleridge has sought to have "ocular demonstration" of the cries of suffering animals, it is not the first time that he has endeavoured to harrow the feelings of the public by descriptions supplied by other people of the howlings of dogs supposed to be in the hands of vivisectors. In his evidence before the Royal Commission he stated that he had received a letter from some undergraduates of Keble College, Oxford, in which they said that, living directly opposite the laboratory, they heard screams of vivisected animals. Mr. Coleridge did "the obvious thing a gentleman ought to do." He wrote at once to the professor, told him the information he had received, and asked for his explanation. The answer was that the head of the laboratory gave the lie to the six gentlemen at once. Mr. Coleridge's comment is that "all he could say was that in a court of justice the six witnesses would go against the one." The Commission was not impressed by the testimony of Mr. Coleridge's six witnesses, however, and it was elicited from him that after he had received a further letter from his informant saying that the professor was a liar, he had left the matter there. "That," he said, "was a flat contradiction. It was no use carrying the matter further." We think it would have been of great use, for it would have given him another and better opportunity of doing the obvious thing a gentleman ought to do. That is to say, instead of leaving on record a story—as it stands unaltered in the reprint of his evidence published by his society in 1907—based on nothing but the imagination of some undergraduates, ignorant of science and knowing nothing of laboratories, he would have frankly withdrawn the charge and expressed his regret at having been made the medium of a false accusation. If he does not know the facts which he might have discovered by carrying the matter further, we have much pleasure in bringing them to his knowledge. The undergraduates apologized, and withdrew the statements made in their communication to Mr. Coleridge; what they heard was not howls of dogs under the vivisector's knife, but the yelps of a litter of young puppies at play, which were kept not for experiment, but because a laboratory guard dog had borne them. Mr. Coleridge cannot divest himself of the responsibility of having by his speeches and publications contributed to bring about a state of mind which could lead a set of young men at once to assume, merely because the sounds happened to proceed from the backyard of a laboratory for physiological research, that the noise produced by a batch of puppies during their youthful gambols was in reality due to the piteous howls of dogs writhing under the vivisector's knife.



It may not be amiss to recall that on a previous occasion Mr. Coleridge made a violent attack on University College. At the annual meeting of the National Antivivisection Society held on May 1st, 1903, he tickled the ears of the groundlings at St. James's Hall with the following delectable piece of rhetoric:

> Within the walls of University College there was a laboratory licensed for vivisection, and into its dark portals there passed a never ending procession of helpless dumb creatures. Dogs, lost or stolen from their homes, where they had known nothing but love and affection, followed one another down that Via Dolorosa into a scene of nameless horror, where man degraded his race and his manhood, and brought on that University a smirch that time itself would never erase. Within the precincts of the college and close to this Pit of Tophet was a school dedicated to one of the purest and loftiest of human studies—that of the fine arts. Between this place of peace and the place of torment, the dividing wall was slight, and into the serene and silent school of the beautiful rose distinctly from the vivisectors' den the shrieks and piteous cries of the dogs in their agony. Surely in this world Heaven and Hell were never brought so near together! But the love of beauty never yet failed to keep the soul alive, and through the Slade School students had the inarticulate sobs and moans of these wretched creatures reached the ears of those less pitiless than their tormentors. Thus through him had the piteous cries reached the thousands in this hall, and he trusted they would reach a million ears through the press. There might be some few persons so hard to convince that even the shrieks heard in the Slade School might not be sufficient, and they might say that until he could produce the testimony of an eye-witness they would not believe. He had come prepared even for them.

Then Mr. Coleridge quoted the testimony of his eye-witnesses, which we will not repeat, as it had the effect of landing him in the law courts, where he was mulcted in heavy damages. But we wish to call special attention to another part of the same speech. After professing that he "desired to observe the amenities of gentlemanlike debate," he went on to say that

> so certain was he of the deep and abiding humanity of the British race that he felt sure that did they know what he knew went on in these dens of infamy, they would not wait for supine legislation; they would not wait for the second readings or third readings of bills in Parliament; but they would go in their irresistible thousands; they would set free the victims from their cages; they would smash to atoms the horrible instruments of torture; and they would leave every laboratory in the kingdom a heap of ruins.

It must charitably be supposed that Mr. Coleridge was on this occasion, to use Disraeli's phrase, "intoxicated by

Argyllshire
Lot 3 413

Sir

Having heard that
you refused admittance
to The Hon Stephen Coleridge
I write to say I
Consider you an absolute
blackguard.
The cries from the
tortured dogs are being
continually complained
of & I intend to make
this known to many
people of position &
influence in my native
& England.
I sincerely trust &
confidently believe that your
deathbed will be
one of the most agonizing
ever known & that
in the next world

you will receive
the same torturing
agonies you give to
dogs.
It shows pretty well
what you do to
the poor creatures
as you are so afraid
of anyone seeing
the Laboratory. I
look upon you as
an incarnate fiend
& hope you may
suck into your
death sooner than
you think.
In my opinion it is
not wrong to kill a
man who tortures
animals as fiendishly
as you do

R. T. C. Jr.

The British Medical Journal

the exuberance of his own verbosity." None the less, he must be held responsible for an incitement to violence and destruction of property which, addressed to the kind of audience he had gathered to hear him, might very easily have led to the perpetration of unlawful acts.

That his appeals to fanaticism might possibly lead to even more serious results is shown by a letter received by Professor Starling since the publication of Mr. Coleridge's account of his visit to the Institute of Physiology at University College. Professor Starling receives communications of the kind very frequently. The following, therefore, may be taken as a sample of the kind of feeling the vituperations of Mr. Coleridge may be capable of exciting:

[*Copy.*] Argyllshire,
N.B.
September 3rd.

Sir,

Having heard that you refused admittance to The Hon. Stephen Coleridge, I write to say I consider you an absolute blackguard.

The cries from the tortured dogs are being continually complained of, and I intend to make this known to many People of Position and influence on my return to England.

I sincerely trust and confidently think and believe that your deathbed will be one of the most agonizing ever known, and that in the next world you will receive the same torturing agonies you give to dogs.

It shows pretty well what you *do* to the poor creatures as you are so afraid of anyone seeing the laboratory. I look upon you as an incarnate fiend and hope you may meet with your death *sooner* than you *think*.

In my opinion it is *not* wrong to kill a man who tortures animals as fiendishly as *you* do.

R.F.C. M.P. [? M.D.]

The last sentence may be taken as representing the ethics of antivivisectionism in their extreme form. The letter, which from the handwriting would seem to have been written by a woman, is signed with initials and with a description doubly underlined, which may be M.P. or M.D. Possibly the ambiguity was not unintentional. We cannot find the name of any member of Parliament with the initials "R. F. C." The letter is reproduced in facsimile by photography, and it is perhaps possible that the writer may be identified. It is, indeed, intolerable that men who are seeking to enlarge the bounds of human knowledge and to discover means of relieving human suffering should be subjected to this form of persecution. Foolish as it is, it represents a state of mind which might very well become dangerous. Possibly some of our readers may remember that some years ago an attempt was made to organize the destruction of vivisectors by prayer. The document was published in the JOURNAL of January 23rd, 1909. The text need not be given again, but one significant passage may be quoted. The writer, M. Cowan, stated that she had thought of prayer as a means of "removing" vivisectors. She thought first of experimenting on Dr. Starling, but, strange as such a scruple may seem, it seemed to her unfair to give such a stab in the dark without first letting it be known what was intended.

> It was therefore finally decided to make earnest prayer, giving much thought to the subject, that the Almighty, if the prayer were in accord with His will, would promptly remove the man most likely to cause future suffering to innocent subjects by his experiments. About a fortnight later one of our most distinguished medical scientists dropped, and the newspapers were lamenting the loss to science of this vivisector and the discoveries he was just about to make.

We do not know who this victim of homicidal prayer may have been, but it obviously was not Professor Starling. The idea was not original, for it is recorded in the life of Dr. Anna Kingsford that she used to boast of the vivisectors whom she had done to death by the power of her will. The poor lady had to confess that she had found Pasteur too tough a subject, and we have not heard of any special mortality among vivisectors as a result of M. Cowan's prayer. This kind of folly can only excite a smile, but the letter here reproduced in facsimile is in a different category, for its last sentence must mean, if it means anything, that the assassination of a vivisector would, according to the code of ethics held by this particular follower of Mr. Coleridge, be a justifiable act. Such an expression of opinion by a person who conceals her name and address has no importance except as evidence of the state of mind which may be produced by the inflammatory appeals of antivivisection agitators. It may safely be assumed that the people who read and are moved by these appeals do not make any investigation into the truth of the allegations upon which such appeals rest, and it is therefore all the more incumbent on those who make such allegations to make sure that their facts are correct, and that the deductions are "obvious and conclusive and necessary," and not wholly erroneous and superfluous.

Mr. Coleridge dissociated himself from M. Cowan's prayer league; will he also publicly express his disapproval of R. F. C.'s code of ethics? It may seem absurd to take serious notice of such threats as the letter contains, but we cannot forget that a Belgian newspaper once published a direct incitement to murder Pasteur. The terms of the letter would appear to show the effect which Mr. Coleridge's rhetorical appeals may have on an excitable mind, and that we are afflicted at the present time with many persons who are prepared to translate hasty words into rash deeds there is abundant evidence. We invite Mr. Coleridge to consider whether he would not be well advised in future first of all to ascertain the facts, and then to state them without exaggeration. Should he and other antivivisectors then find that they do not supply material for prolonging their agitation, that will be the fault of the facts.

It may be asked, Was Mr. Coleridge, then, mistaken in thinking that he heard the howls of dogs? Not necessarily. But he was certainly mistaken in believing that they proceeded from animals undergoing "torture." We have ourselves heard the most appalling shrieks emanating —if we may borrow a word from Mr. Coleridge's elegant vocabulary—from a terrier frenzied with the lust of blood owing to the neighbourhood of some mice he could not reach. Most workers in laboratories within the precincts of which dogs are allowed to ramble have had similar experiences. We recommend Mr. Coleridge not to rush into print again with descriptions of "dolorous clamour" caused by wounds inflicted under certificate B till he has had "ocular demonstration" that the dreadful cries do not emanate from untouched dogs protesting that they are debarred from following the instinct of "Nature red in tooth and claw."

ONE HUNDRED YEARS AGO.

TYPHUS FEVER.

IN May, 1813, typhus fever was much in men's minds. As has so often happened, it came not alone, but was accompanied by famine and war; these three grim forms stood menacingly over Central Europe in the spring months of the year. In 1812 there had been the rush of a great wave of armed men from west to east across the Continent. More than half a million soldiers, constituting *la grande armée* of Napoleon, poured over the territory held by the Confederation of the Rhine, and, gathering numbers, flowed on with slackening speed into Russia, to break against the walls of Moscow and to stream back again over Poland and Prussia from east to west in feeble, shattered wavelets. It was General Typhus, allied with Generals Famine and Frost, who had come to Russia's aid, had scattered these invading thousands, and had sent them back as bands of disease-stricken stragglers, dying by hundreds on the way, across Germany, and carrying the pestilence wherever they went. In May, 1813, a second great eastward flow was in progress; it was now France with some Westphalian, Bavarian, and Saxon contingents, which was opposed to Russia in alliance with Prussia and later with Austria too, and this wave broke into spray in the terrible three days' battle of Leipzig—without exaggeration termed the "Battle of the Nations"—in which there was a total loss of not less than 120,000 men (October 16th to 19th, 1813). To quote from the *Cambridge Modern History* (vol. ix, p. 541), Napoleon "brought back to France only about 70,000 men, of whom 30,000 soon afterwards fell victims to typhus, and many others wasted away; within little more than a year two French armies, amounting together to nearly a million of men, had perished." Exactly how much of this mortality and disablement was due to typhus fever cannot, of course, be determined, but there can be no doubt at all that both in the campaign of 1812 and in that of 1813 this malady was terribly fatal.

To the medical men of the beginning of the nineteenth

century typhus fever was no unknown or little known disease; under the names of nervous fever, spotted fever, exanthematic typhus, putrid fever, and febris pestilens, it was always in the thoughts of the doctors, and the vernacular terms *jail*, *hospital*, *ship*, and *camp fever* tell only too plainly something of the places in which it wrought its devastating effects. We hear nothing nowadays of "black assizes," but our ancestors were not so blissfully ignorant. Many of us at the present time have never met with a patient suffering from typhus fever; the writer of this article has only seen one case of it, and that was thirty years ago this May when he was a medical student in his final term of study. Its name appears but seldom in our medical journals. But to the medical practitioners of the time the typhus epidemics of 1812–13 were as fresh reminders of the unmanageable nature of this dire scourge, and a new flow of books and articles on the subject came from the medical press of Germany, France, and Great Britain during the years which immediately followed the Moscow campaign and the battles round Leipzig. For instance, Professor Parrot of Dorpat dipped his pen in ink and wrote his paper, *Ueber das im jetzigen Kriege entstandene typhöse Fieber und ein sehr einfaches Heilmittel desselben;* and this contribution to the etiology and treatment of *Nervenfieber* (as he preferred to call it) appeared in Hufeland and Himly's *Journal der practischen Heilkunde* for May, 1813. It is, indeed, the principal article in the May monthly instalment of that widely read periodical, occupying 72 out of the 128 pages of which it consists.

Dorpat, it is true, lay to the north of the line of advance of the *grande armée* through Russia upon Moscow, but it was well within the zone of the typhus fever epidemic which accompanied and spread out on all sides from the path of retreat of the broken and dispirited masses of men struggling through snow and storm to regain the banks of the Niemen. Professor Parrot had abundant opportunity of observing cases of typhus and of testing his remedy, which was acetic acid or vinegar. He speaks very highly of its efficacy, and in a later number of Hufeland's *Journal* (July, 1813) he is able to supplement his earlier report with further evidence furnished by an independent writer. As for the rest of his article, the part which deals with etiology and with what he calls his "fundamental hypothesis," it has fallen quite dumb to us of the twentieth century; its terminology is almost obsolete, and the ideas which underlie it have passed away. The illustrative cases, which meant so much to Parrot for the support which they gave to his fundamental hypothesis, are interesting to us for other reasons. The paper was no doubt eagerly scanned by the readers of Hufeland's *Journal* who had typhus cases to treat, and there were many of them we may be sure; but to us it stands simply as an indication of the severity of the epidemic of 1812–13, and as a grim reminder of the medical aspects of Napoleon's march upon Moscow.

Now, a hundred years later, Dr. Achilles Rose[1] of New York, has taken pains to collect into one volume the contents of many scattered and almost inaccessible pamphlets and books bearing upon the medical details of the campaign of 1812. He has worked the historical into the medical in a way that makes the work very interesting and almost absorbing reading; and from beginning to end we feel that it was disease more than all the other opponents of the march which Napoleon had to fear. Dr. Rose utilizes books and dissertations published soon after the war, as well as those journals and diaries which have only recently become available, in order to tell his story with effect and graphic accuracy. Among the former he relies largely upon Dr. Krantz's *Bemerkungen über den Gang der Krankheiten welche in der Königl. preuss. Armee vom Ausbruche des Krieges im Jahr 1812 bis zu Ende Waffenstillstandes (im Aug) 1813 geherrscht haben*, published in 1817, and upon Dr. Ch. Jo. de Scherer's dissertation (Tübingen, 1820) *Historia morborum, qui in expeditione contra Russiam anno MDCCCXII facta legiones Württembergicas invaserunt*, etc. Among the latter he draws upon the works of Bleibtreu (1908), Johann von Borcke (1888), Heinrich von Brandt (1870), Carpon (1902), Chuquet (1912), Wilhelm Ebstein (1902), Paul Holzhausen (1912), Karl Schehl (1912), and von Yelin (1911). It is now possible from these various sources to reconstruct, with some degree of accuracy and also with an appalling sense of horror, the medical history of the events of 1812 and of the sequel to them in 1813.

Napoleon's great army, containing, let it not be forgotten, many thousands of Westphalians and Württembergers and of other nationalities which were not French, was in reality annihilated before it reached Russia. These are Rose's striking words, and he is able to furnish facts which show his statement to be not unfounded: forced marches over the sandy plains of Poland and Lithuania, the drinking of stagnant water, dysentery, immoderate use of spirits, insufficient food, and the absence of medical supplies and of proper hospitals, all tended to sap the soldier's strength and make him unfit for the campaign in Russia itself. Further—and this has a bearing upon recent work on the causation of typhus fever[2]—the army "found Prussia, and especially Poland, ugly, dirty, miserable, all the houses were full of dirt and vermin, domestic animals of all kinds were the intimate *syntrophoi* of the peasants in their living rooms." In Russia medical conditions became rapidly worse; each battle added to the misery of the troops, and served to demonstrate the inefficiency and inadequacy of the hospital arrangements. Already at Wiasma there were numerous cases of typhus; but when the long retreat from Moscow began then that dread scourge fell upon the wretched, starved, half-frozen soldiery and swept them off in thousands. Dr. Rose gives details from contemporary narratives, almost too horrible to be read calmly, of the frightful ravages of typhus fever. The track of the army became infected, so that whoso passed along it afterwards caught the contagion. Thus, "the first East Prussian regiment of infantry, when it came to the Vistula, had not a single case of typhus in it, while after a march of fourteen miles on the highway which the French had passed before them there were fifteen to twenty men sick in every company, every tenth or even every seventh man." Along with the typhus came epidemic ophthalmy. "All the hospitals between the Vistula and Berlin . . . were thoroughly infected and thus transformed into regular pest-houses, exhaling perdition to every one who entered, the physicians and attendants included." A typhus patient's best chance was to be treated on the march, a fact which excited surprise then but need not do so now. Hospital treatment consisted in the exclusion of fresh air and the hourly administration of medicines!

It is only within recent years that some light has been thrown on the transmission of the infection of typhus fever, but the causal organism remains unknown. In fact we have in this fever the curious phenomenon of a malady which has almost entirely disappeared in many parts of the world without its cause having been discovered. But there seems to be now no doubt that the natural agent of transmission of typhus fever is the common body louse; and, further, there is evidence to show that the second generation of progeny of infected lice are able to confer a certain degree of immunity (*vide* annotation in this JOURNAL for August 24th, 1912, p. 452).

Now, if body lice be indeed the carriers, there is abundant evidence in Dr. Rose's book and in other articles that the conditions both in 1812 and 1813 were most favourable for their activities. Take this passage from Rose's work (pp. 102–103):

> And the vermin! Carpon, a surgeon-major of the grand army, in describing the days of Wilna . . . speaks on this subject. It is revolting. Strange to say, it is hardly ever mentioned in the medical history of wars, although every one who has been in the field is quite familiar with it. At last I have found—in Holzhausen's book—a description of the most revolting lice plague (phtheiriasis) from which, according to his valet, Constant, even the emperor was not exempted. As a matter of course under the circumstances—impossibility of bodily cleanliness—this vermin developed in a way which baffles description. Suckow, a Wuerttembergian first lieutenant, speaks of it as causing intolerable distress, disturbing the sleep at the camp fire. Johann von Borcke became alarmed when he discovered that his whole body was eaten up by these insects. A French colonel relates that in scratching himself he tore a piece of flesh from the neck, but that the pain caused by this wound produced a sensation of relief.

Again, when the Prussian troops reached their own

[1] *Napoleon's Campaign in Russia, Anno 1812: Medico-Historical.* By Dr. A. Rose. Published by the Author. New York, 1913. (Pp. 212.)

[2] BRITISH MEDICAL JOURNAL, 1912, ii, p. 451.

land in 1813 one of their first occupations was to remove from their faces the mask of dirt which had accumulated there; and their fellow countrymen of all ranks made a good wash the first part of their hospitality. Here is another short extract from Dr. Rose's book:

Sergeant Schoebel, together with a comrade, was quartered in the house of an honest tailor, who, seeing how the soldiers were covered with lice, made them undress and, while the wife boiled the undergarments, the tailor ironed the outer clothing with a hot iron.

It seems strange that a hundred years have had to pass before the carrier of the contagion of typhus fever has been identified as the body louse; but, assuredly, the annals of the wars of 1812–13 furnish abundant evidence that there then existed no lack of opportunities for this etiological factor coming into action.

ROYAL MEDICAL BENEVOLENT FUND.

AT the April meeting twenty-one cases were considered, and grants amounting to £200 voted to eighteen of the applicants. Appended is an abstract of the cases relieved:

1. Widow, aged 57, of L.R.C.P.Edin. Only income about 10s. a week from lodgers; children unable to help. Relieved three times, £34. Voted £10.

2. Widow, aged 51, of M.B., C.M.Glasg. Since husband's death, ten years ago, has been supported by a son, but asks for a little help to relieve him. Voted £5.

3. Daughter, aged 45, of late M.R.C.S. Was a district nurse for many years, but had to give up her post owing to feeble health, and now tries to support herself by letting rooms. Relieved twice, £20. Voted £10.

4. Widow, aged 39, of L.R.C.P., L.R.C.S.Edin. Lost her husband about twelve months ago, after several years' illness, and is now suffering from a grave internal complaint. No income; three children, the eldest only 16. Voted £24.

5. Widow, aged 48, of L.R.C.P., L.R.C.S.Edin. Health too feeble to admit of occupation, and is allowed £1 a month by the Working Ladies' Guild. Is a candidate for a pension from the British Home and Hospital for Incurables. One child dependent and the others unable to help. Relieved seventeen times, £196. Voted £12.

6. Widow, aged 43, of M.B., C.M.Aberd. Supplements an income of a few shillings a week by taking boarders, but having four young children finds great difficulty in meeting her unavoidable expenses. Relieved twice, £20. Voted £10.

7. Daughter, aged 66, of late M.R.C.S. Is mentally feeble, and for many years has been practically dependent on this Fund and a small pension given by another society. Relieved fourteen times, £144. Voted £12.

8. Daughter, aged 42, of late L.R.C.P., L.R.C.S.Edin. Endeavours to support herself by nursing but finds great difficulty in obtaining engagements and has recently been incapacitated by illness. Relieved eight times, £61. Voted £5.

9. Widow, aged 50, of M.B.Aberd. After husband's death supported herself by nursing but broke down in health and has now for the last few years been quite incapacitated. No income and dependent on a small weekly allowance from a sister and a little help from a married son. Relieved five times, £49. Voted £12.

10. Widow, aged 46, of M.R.C.S. Quite unprovided for at husband's death a few years ago from a new growth, and has been obliged to give up a situation as mother's help on account of uncertain health. Is practically dependent on a stepson whose earnings are small. Relieved four times, £48. Voted £12.

11. Widow, aged 64, of M.R.C.S. Income less than 5s. a week and is deprived for the present of the help given by two of her children. Relieved three times, £36. Voted £12.

12. Daughter, aged 51, of late M.R.C.S. Used to be a governess but has become nearly blind, and is quite unable to maintain herself. Relieved twice, £24. Voted £12.

13. M.D.Aberd., aged 60. Has suffered for several years from a spinal complaint and is now practically bedridden. Receives help from other charitable societies, but having three children dependent is obliged to seek further assistance. Relieved three times, £33. Voted £10.

14. Widow, aged 68, of L.R.C.P., L.R.C.S.Edin. Only income a small pension from a charitable society and is quite incapacitated by rheumatoid arthritis. No children. Relieved three times, £29. Voted £10.

15. Daughter, aged 60, of late M.D. Is quite helpless owing to an advanced nervous disease and is practically dependent on this fund and slight help given by friends. Relieved four times, £44. Voted £18.

16. Daughter, aged 67, of late M.R.C.S. No income, and only able to occasionally earn a few shillings a week. Relieved once, £12. Voted £12.

17. Wife, aged 48, of L.R.C.P., L.R.C.S.Edin. Since the mental breakdown of her husband five years ago has endeavoured to support herself by taking boarders; two sons, aged 20 and 17, the elder barely self-supporting, and the younger an apprentice not yet earning anything. Relieved three times, £48. Voted £2, and case to be reconsidered next month.

18. Daughter, aged 70, of late M.R.C.S. At father's death many years ago was fairly provided for, but lost some of her capital through the failure of a bank and the rest in the endeavour to establish a boarding house; now dependent on this fund and a sister who can ill afford to help. Relieved three times, £36. Voted £12.

Contributions may be sent to the Honorary Treasurer, Dr. Samuel West, 15, Wimpole Street, London, W.

LITERARY NOTES.

STAFF-SURGEON-GENERAL MORI, of the Japanese army, has translated Goethe's *Faust* into Japanese.

Messrs. Baillière, Tindall, and Cox will publish a new edition of Castellani and Chalmers's *Tropical Medicine*, which embodies the most recent researches. The book has been revised throughout, and special attention has been bestowed on many of the chapters—notably those on protozoa, fungi, skin affections, pellagra, enteric fever, and trypanosomiasis. About 250 new illustrations have been introduced, while some 500 pages have been added to the text.

The May issue of the *Arena* opens with two articles answering from differing standpoints the question: "Are views on women's suffrage inculcated at girls' schools and colleges?" The writers are Mrs. Elizabeth Sloan Chesser, M.B., and Mrs. Frederick Harrison. The former sums up her view in the concluding sentences of her article:

If suffrage is spreading in the schools, let us welcome the fact as a sign that the modern girl is developing an interest in the affairs of the nation and the empire which will in no way diminish her zest for tennis or for her *joie de vivre*.

There are not a few golf players, however, who might say that it tends seriously to diminish their opportunities of playing their favourite game. On the other hand, Mrs. Harrison holds that it cannot be the purpose of education to turn its pupil into a party politician, and that the teachers are seldom well prepared to treat of the Feminist movement. She adds that the cultivation of a sense of humour would greatly improve the situation. "It is not for school girls to make revolutions!" Professor Strong contributes an amusing account of the early days of the University of Liverpool, and of the struggles of that institution to obtain a permanent footing. Another university dealt with is that of El-Azahr, the great Mohammedan university in Cairo. The author makes an interesting comparison between that institution and Oxford; both universities began as semi-religious foundations, and have carried their atmosphere of the Middle Ages with them down to the present time. We take this opportunity of again expressing our appreciation of the excellence of our contemporary. The skill with which the literary fare is varied to suit the intellectual palates of different readers reflects the highest credit on the editor, Mr. Horace W. Wyatt.

In the *Married Life of Queen Victoria*, published recently by Eveleigh Nash, the author, Clare Jerrold, states that at the birth of the Princess Royal (the late Empress Frederick), Locock, who officiated on that auspicious occasion, received a fee of a thousand pounds; probably the other physicians present—Blagden and Sir James Clark—were paid on the same scale. A comic poet of the period celebrated the services of those learned men in the following verse:

Doctors Locock, Blagden, Clark,
They made the great discovery,
And having brought the goods to town,
Were paid upon delivery.

It was also announced—not, it need hardly be said, officially—that Prince Albert intended to present Locock with a piece of plate bearing the inscription, "To the great deliverer of his country."

In *Paris Médical* of March 15th Dr. Julien Roshem gives an account of a French medical journal of the seventeenth century. It was entitled *Le Temple d'Esculape*, and was intended to chronicle new discoveries in medicine. The first number was published in Paris in January, 1680, the editor being Nicolas de Blégny, a well-known surgeon of the time. He

explains the name and the object of his periodical in the following announcement:

Nothing has more served to render medicine dogmatic than the tablets formerly placed in the pagan temples where Esculapius was adored as the god of medicine because these tablets contained not only the names of those who had been cured by extraordinary remedies, but also an exact description of the remedies and of the use that had been made of them. For the same reason it is hoped that the new discoveries made in that science being recorded and published according to the design of the author will make the good fortune of individuals available for others and furnish for the future more certain principles and more infallible rules for the art of preserving life.

He describes the nature of the contents of the periodical more in detail as follows:

The reader will always find in these numbers the discoveries made at the opening and dissection of bodies, the extraordinary features that may be observed in common diseases, the signs and features of those which are newly identified, the histories and illustrations of monsters and other prodigies of nature, descriptions of remedies and newly-invented instruments which facilitate the cure of diseases, new chemical experiments, remarkable things seen in the art of healing, the reasonings of scientific men on all these various subjects, new systems of physics and generally everything relating to the knowledge of natural bodies.

Blégny must have been a man of considerable boldness since his very first article was on the causes and effects of ecstasy as to which he says that, although theologians looked upon the condition as an effect of grace, it may also sometimes have natural causes. The case was an ordinary one of apparent death. Some of the articles boom remedies of which the nature is not disclosed, together with the names of physicians who used them successfully. It would almost seem, therefore, that the gentle art of palming off on the innocent reader paid advertisements as original contributions to science was not unknown in the reign of the Sun King. Reviews of books are also among the contents of the *Temple d'Esculape*, and the editor did not spare the rod. For instance, he says of a certain compendium of medicine:

Those who love good books well enough to be provided with them will easily be able to dispense with this one because it contains hardly anything which cannot be found elsewhere.

—a criticism which could be applied to much literature of the present day. There are also prescriptions which show that John of Gaddesden's distinction between medicine for the rich and medicine for the poor still existed. Thus we have a sudorific for the rich and one for the poor, a cordial for the rich and one for the poor, and so on. The periodical seems to have been well received, for from a monthly it was transformed into a fortnightly from its second number. By the end of 1680 it had changed its title to *Nouveautez journalières concernant les sciences et les arts qui font partie de la médecine*, and became a weekly. As to its subsequent fate we are left in the dark.

In the February number of the *Chemical World* Sir William A. Tilden states that three letters in the handwriting of Sir Humphry Davy have recently come into his possession. Two of these are addressed to Professor W. T. Brande, who in 1813 succeeded Davy as Professor of Chemistry in the Royal Institution. These letters were written during Davy's travels on the Continent in 1818. The first, dated June 26th, is from Vienna, and conveys Davy's congratulations to Brande on his approaching marriage. The second letter supplies a few facts of biographical importance which help to fill a lacuna in John Davy's life of his famous brother. In the journey to which the letter relates Davy, who was accompanied by Lady Davy, passed through Flanders, ascended the Rhine, crossed Germany to Ratisbon, and passing down the Danube reached Vienna about June 13th. After visiting Venice they made their way over the Apennines to Rome, and afterwards to Naples, where they began experiments on the unrolling of the Herculaneum papyri. The letter is dated Idria, April 23rd, 1818. Davy writes:

Since I wrote to you at Vienna we have made a very long journey. I have visited the most interesting parts of Hungary, Styria, Saltzburg, and Carinthia, and have seen some mountain scenery quite as worthy of admiration as any I ever saw in the Swiss Alps. I have lived amongst the mountaineers purer and more uncorrupted than even the Swiss. We have had delightful weather and have had full enjoyments of a summer fine—but not sultry, in districts where without fine weather there could have been but little pleasure.

I will not write to you a geological letter or describe to you the great calcareous mountain chain that runs from Kermond in Hungary to Berchtesgaden in Bavaria and to the centre of Carniola with its belts of Breccia, and its intersections of Shist and its central column of Granite—I will not tire you with a page that might claim a place in the transactions of the plum pudding stone Society; but I will give you a line on the *quicksilver mines* which I came here to see. The formation is in Bituminous Shist which sometimes emits inflammable air and which alternates with limestone like the Derbyshire. I have this day been down 1,120 feet and returned without being salivated. I pity the poor workmen, who all lose their teeth in a very short time. The veins of cinnabar are very beautiful and one I saw nearly a foot in thickness. My Wife went down with me and visited the whole mine which is rather a feat to be talked of for a lady.—I found a good deal of inflammable air Carb: Hyd: in the great salt mine at Halstadt. The salt is like the quicksilver here in Bituminous Shist.—I taught them the use of the lamp, which notwithstanding the science of their imperial proprietor they were still unacquainted with. A good many men had been burnt a few months ago. The inflammable air is found in largest quantities where the *blue* salt is. I have been again searching in vain for the cause of this extraordinary colour.

* * * * * *

I am now in the *Proteus Country*, and I hope to send Sir Everard some alive. I go to the caverns where they are found the day after to-morrow.

Sir William Tilden points out that the "*Proteus* country" here mentioned is in Carniola and Carinthia, where the subterranean waters occurring in some of the caves of that district are inhabited by the curious amphibian, the *Proteus anguinus*, which seems to have interested Davy very much. One of the divisions of his *Consolations in Travel* is headed, "The Proteus or Immortality." The "Sir Everard" mentioned in the letter is Sir Everard Home.

In the JOURNAL of December 21st and 28th, 1912, reference was made to the powers formerly possessed by bishops of granting licences for the practice of medicine. We regret that by an oversight we omitted to quote an interesting document sent us a considerable time ago by Dr. James Griffin of Banbury. It is a diploma from the Archbishop of Canterbury granted to an ancestor of his to practise at Deddington some six miles from Banbury. It may be mentioned that members of the family have been in practice in the county of Oxford since 1600. The diploma was granted by the Archbishop to William Griffin of Deddington on August 3rd, 1734. Our readers may be interested to see the text of the document:

WILLIAM by Divine providence Archbishop of Canterbury Primate of all England and Metropolitan to our beloved in Christ WILLIAM GRIFFIN of Deddington in the County of Oxon and of our province of Canterbury Health and Grace WHEREAS we have been credibly informed that you have for some time past been conversant in the practice of Physick and Surgery and by God's assistance have cured many who have been desperately sick and wounded and have received a laudable Testimonial from several practitioners of your experience fidelity diligence and industry in performing the cures which you have undertaken in these arts of Physick and Surgery We do for the causes aforesaid and others justly moving us in this behalf as far as in us lyes and we can by the Statutes of this Realm and not otherwise nor in any other manner admit and approve of you and do by these presents give and grant to you our Licence (as long as you shall behave yourself well and laudably) to practice the said Arts of Physick and Surgery in and through our whole Province of Canterbury the places in the Act of Parliament mentioned being excepted you having first taken the Oaths of fidelity and allegiance to his Majesty King George and of renouncing all Foreign Jurisdiction power authority and superiority according to an Act of Parliament of this Kingdom made and provided in this behalf IN WITNESS whereof We have caused the Seal which we use in this behalf to be hereunto put this Third . . . day of August—in the year of our Lord one thousand Seven hundred thirty four and in the Nineteenth year of our Translation.

(signed) JOHN HAYNES Register.

Attached to the diploma is a seal bearing the archiepiscopal arms and the inscription, "The seal of the Vicar General to His Grace of Canterbury." The document is stamped to the amount of fifteen shillings.

British Medical Journal.

SATURDAY, MAY 3RD, 1913.

THE ANTIVIVISECTOR AT LARGE.

For some years one of the antivivisection societies has maintained in Piccadilly, nearly opposite Burlington House, where so many scientific societies have their homes, a shop for the purpose of advancing the propaganda in which it is engaged by an appeal to the eye of the passer-by.

In the window were displayed models, pictures, and literature—one of the models purporting to represent a dog gagged and bound to a board for vivisection without anything to suggest the use of an anaesthetic; one of the drawings showed a large saw, such as might be used for cutting up logs; and the literature included examples of the class usually circulated by the opponents of the experimental method in physiology and pathology. The exhibition in the shop window was provocative and misleading, more especially owing to the absence of any suggestion of the use of anaesthetics. It provoked Dr. Saleeby, a graduate in medicine of the University of Edinburgh and a journalist of long experience, to write a denunciation, and the editor of the *Pall Mall Gazette* had the courage to publish it. The denunciation was strongly worded. The plaintiff in her opening statement said (according to the report in the *Times*) that Dr. Saleeby had not said that she had made a mistake, or that she might have been carried away by her enthusiasm for the cause, but had emphasized the charge that she had carried on a systematic, carefully-thought-out campaign of falsehood or deliberate suppression of the truth, and that she had shown the greatest audacity in the attempt to keep the antivivisectionist society alive. The verdict of a special jury rendered in the Court of King's Bench has established that the denunciation was not stronger than the circumstances could be held to justify.

That it required no little courage to publish the article is sufficiently shown by the fact that the case occupied nearly all the working hours of the court for over a fortnight, and any one who has any experience of the law can form some idea of the financial risk run in respect of costs alone, to say nothing of damages. Antivivisectionists, though critics by profession, have before now shown themselves very sensitive to criticism, and this Journal some years ago had to defend an action for libel brought by the editor of another review which devoted much space to this propaganda. That case fortunately terminated in a few hours, and the verdict was for the defendants; but the case which the *Pall Mall Gazette* has recently had to defend dragged on day after day, and, though it terminated by the finding of a similar verdict, the expenditure must have mounted up to a very considerable total.

The judge paid the plaintiff a high compliment on the forensic ability with which she had conducted her own case. The questions he left to the jury were, first, whether the plea of justification advanced by Dr. Saleeby and the *Pall Mall Gazette* was substantially proved; and, secondly, if that plea failed, were they satisfied that the comment was fair and bona fide, and would the jury, had they been antivivisectionists themselves, have carried on the campaign as it had been carried on by the plaintiff? The jury after a short absence returned a verdict for the defendants, in which the judge said he entirely concurred.

The long-drawn-out proceedings in this case have been very fully reported in the daily press, and it may therefore be hoped that they will have the effect of enlightening the public mind as to the real character of the methods pursued by certain leaders of this agitation. The general line the plaintiff took was that experiments on animals were useless, and her contention was supported by such statements as that Harvey had embodied and put in order the discoveries of others who had not experimented by way of vivisection; that the germ associated with a disease was not its cause, but a symptom; that the use of diphtheria antitoxin was followed by an increase in the number of cases of paralysis; and that plague inoculation had increased plague, and was responsible for six and a half million deaths in India. This last statement must have been a blunder of the plaintiff or her informant, but that it should have been for one moment believed is an instance of the almost incredible readiness with which an assertion to the disadvantage of the experimental method is prone to be accepted by those engaged in this agitation. The plaintiff, moreover, maintained to the end that though the six and a half million persons had not been inoculated, yet plague had been spread through this inoculation, so that instead of lasting seven months, which she said was the normal period of an outbreak of plague, it had lasted twelve years.

Mr. Stephen Coleridge, who seems always anxious to convince the public that he is the *preux chevalier* of the agitation against the application to physiology and pathology of the experimental method which has been so fruitful in advancing other sciences, hastened, as soon as the trial was over, to disclaim for his society that it had ever been associated in any way with any of the issues involved, and to announce that its policy in Parliament and elsewhere would not be "altered or modified in any manner whatever in consequence of this action." Nevertheless, it might be well that he should seriously reflect on the possible results of some of the methods by which his policy is pursued. He has allowed himself on at least one occasion to invite the British race, or those among it who accept him as a guide, not to wait for legislation, but to go in their irresistible thousands and leave every laboratory in the kingdom a heap of ruins. As is shown by the letter published elsewhere (p. 952), another utterance of his so worked upon the mind of one of his admirers as to induce an anonymous letter to be addressed to a physiologist of eminence in this country expressing the confident hope that his deathbed would be agonizing, and that he would be tortured in the next world, and the opinion that it would not be wrong to hasten his exit from this. Mr. Coleridge no doubt would be careful before wrecking the laboratory to afford the professor and his assistants an opportunity to make good their escape; there is just a risk, however, that others might not be so humanely considerate.

QUACKERY IN LONDON IN THE EIGHTEENTH CENTURY.

LADY MARY WORTLEY MONTAGU seems to have regarded her fellow countrymen as peculiarly susceptible to the lures of the quack. Writing in 1748, she says: "I find tar water has succeeded to Ward's drop: it is possible by this time that some other quackery has taken the place of that; the English are easier than any other nation infatuated by the prospect of universal medicines: nor is there any country in the world where the doctors raise such immense fortunes. I attribute it to the fund of credulity which is in all mankind." She adds the shrewd remark: "We have no longer faith in miracles and reliques, and therefore, with the same fury run after receipts and physicians; the same money which three hundred years ago was given for the health of the soul, is now given for the health of the body, and by the same sort of people, women and half-witted men: in the country where they have shrines and images quacks are despised, and monks and confessors find their account in managing the fear and hope which rule the actions of the multitude." It is quite probable that even at the present day the nostrum vendor does not find so good a market for his wares in countries where faith in miracles is prevalent as in those where secret remedies are regarded as more potent than relics. The superstitions are to a large extent incompatible. That the Englishman of Lady Mary's day was more the slave of quackery than other men is probable enough, for the intelligent citizen of the United States did not then exist. There is ample evidence that charlatanism of every kind was rife in this country, especially in London.

In the eighteenth century there was no accepted code of medical ethics, and we read of physicians whose names live in medical history doing things which the General Medical Council would now treat as infamous conduct in a professional respect. If these things were done in the green tree, it may easily be guessed what was done in the dry. Indeed, except the possession of a diploma—and even that was not absolutely necessary—there was little to distinguish the regular doctor from the quack. Smollett, who was a member of the medical profession, though his irritable temper did not make for success, has much to say of the arts by which physicians sought to make themselves known in his day. He also gives, in *Ferdinand Count Fathom*, a vivid picture of the contemporary quack. When that ingenious blackguard found all his attempts to pose as a man of fashion fail, he "wisely came to the resolution of descending one step in the degrees of life, and of taking upon him the title of physician, under which he did not despair of insinuating himself into the pockets of his patient and into the secrets of private families so as to acquire a comfortable share of practice, or captivate the heart of some heiress or rich widow whose fortune would at once render him independent and happy." After acquiring a smattering of medical lore from books he determined to make Tunbridge Wells his first scene of action. On arriving there he went to the shop of an apothecary and wrote a prescription, which he desired to be made up forthwith. While the physic was being compounded he discoursed on the virtues of the Tunbridge water and on medicine in general, impressing the apothecary so much that he spoke of the new oracle of medicine to every family in the town. In the meantime Fathom did his best to push himself. He was not at first well received by the ladies, but at last he found his chance. A young lady crossed in love was seized with a nervous attack when her ordinary physician happened to be out of the way. Fathom was called in and by good luck succeeded in curing the patient. When the season at the Wells came to an end he repaired to London, where he bought an old chariot which he had repainted, and hired a footman whom he clothed in lace livery. Fathom found that the field was wholly occupied by a few practitioners who, having reached the height of reputation, were no longer obliged to cultivate the arts by which they rose, while the rest of the business was parcelled out into small enclosures occupied by different groups, each composed of a waiting woman, nurse, apothecary, surgeon and physician, and sometimes a midwife, who all played into each other's hands. Fathom took lodgings over an apothecary's shop, and advertised that every day at a certain time and place he would give advice to the poor for nothing, hoping that some lucky cure might bring him fame and patients. In the meantime his chariot rolled during the whole forenoon through all the most frequented streets, and at the usual hour he never failed to put in an appearance at the medical coffee house, where he mingled freely with the company there. "The other means used to force a trade, such as ordering himself to be called from church, alarming the neighbourhood with knocking at his door at night, receiving sudden messages in places of resort, and inserting his cures by way of news in the daily papers, had been so overdone that they had lost their effect on the public." Fathom therefore decided to wait till he should have acquired interest enough to erect a hospital by the voluntary subscriptions of his friends—a method which had paved the way to success for many doctors. But even in the middle of the eighteenth century it "was so overdone that almost every street was furnished with one of these so-called charities." A "lucky miscarriage," brought about by means of a remedy so violent in its action that it nearly killed the patient, made him talked about, and he neglected no method of advertisement to keep himself before the footlights. His practice increased so rapidly that he seemed to be on the high road to fortune, when the seduction of a patient, followed by the death of a nobleman whom he had ordered to be bled, brought about his ruin, and he was finally laid by the heels in prison. There we may leave him.

The various devices for gaining practice mentioned by Smollett were used by doctors and quacks alike in the eighteenth century. John Huxham, a highly respectable physician of Plymouth, who was one of the first to describe diphtheria, did not disdain to ride hurriedly out of one of the gates of the town and return by another that he might be thought to be busy. All the arts practised by Tom Sawyer, late Nock'emorf, were in use long before the day of that enterprising practitioner. Dickens in his youth was a great reader of Smollett, and he may have taken hints from *Ferdinand Count Fathom*. With regard to the founding of hospitals by doctors, who hope in this way to raise themselves into notice "on the carcasses of the poor," as Smollett crudely puts it, many people probably think this a modern invention. It is well known that in times not remote special hospitals have sometimes had their origin in the desire for professional advancement. Yet we see that in the eighteenth century this device was already regarded as "overdone."

The methods of professional pushfulness and quackery are much the same in all ages, and, we venture to add, in all countries. Although the

profession is better disciplined now than it was in the eighteenth century, quackery flourishes with even ranker luxuriance than it did in Smollett's time. As we have often pointed out, the only cure is by scientific education to create an intellectual atmosphere in which superstition and credulity cannot live. We have little hope, however, that this state of general enlightenment will ever be reached. In the immortal words of Robert Macaire: *Tout passe, mais les badauds ne passeront jamais.*

THE POSITION IN SOUTH WALES.

We venture to invite the attention of all members of the Association to the paragraphs in the annual report of the Council, published in the Supplement for this week, dealing with the position in South Wales, and the use that is there now being made of Section 15 (3) of the Insurance Act, which gives to insured persons the right to apply to the Local Insurance Committee to be allowed to make their own arrangements for medical attendance and treatment.

In South Wales an attempt is being made to use this subsection in a way never intended and contrary to the spirit of the Act, and contrary more especially to the tenor of the provisions designed to ensure free choice of doctor. There has been in existence in South Wales for many years a system under which the workman made a weekly or fortnightly contribution to cover the cost of medical treatment of himself and his dependants. When the Insurance Act came into force the medical profession put forward certain proposals to meet the situation. The general effect of these proposals was that insured persons whose personal needs were provided for under the panel system instituted by the Insurance Act would make a monthly payment, usually 1s., to provide for medical attendance on their dependants, and that those who had no dependants would make a monthly payment of half the amount so that the burden on all those engaged in the industry might be equalized. The friendly societies and various trade unions did not accept this just, and indeed generous, proposal, but set to work to form combinations to impose much more onerous terms upon the medical profession. With the assistance of the Local Insurance Committees and the connivance of the Welsh Insurance Commissioners, they are endeavouring to formulate schemes, the general drift of which is to obtain the whole-time service of men willing to work for a stated salary under conditions unhesitatingly condemned by the profession.

The Council, in its report, points out that combinations of workmen and their dependants formed for the purpose of employing medical practitioners, either whole or part time, having failed in many instances to secure recognition under the Harmsworth amendment (Subsection 4 of Section 15), on the ground that they were not in operation at the time of the Act coming into force as the subsection requires, are now receiving encouragement from the Welsh Commissioners to ask the Insurance Committees to give them permission to make their own arrangements collectively under Subsection 3 of Section 15. The approval of some of the Insurance Committees has already been given to a number of such schemes. If the action of the Insurance Committees receives the approval of the Welsh Insurance Commissioners the effect will be to exploit the local medical profession, and to place them more completely under lay control than is possible under the panel system, or indeed was achieved under the old system of medical aid associations now universally condemned by public opinion in Great Britain. Should the Welsh Insurance Commissioners give their consent it will be regarded as a distinct breach of faith with the medical profession on the part of the Commissioners and of the Government. Such a step would raise to exasperation the feelings of medical men in South Wales.

The medical men in Swansea are unanimous in their decision not to accept such service, and the honorary medical and surgical staff of the Swansea Hospital have given their support by resolving that they will in no circumstances meet in consultation, or have any professional dealing, either at the hospital or privately, with any medical man holding office under a society or association having for its object the employment of medical men under conditions not approved by the medical profession, and will decline, except in cases of gravest emergency, to treat in hospital any member of such a society. In taking this action the honorary medical and surgical staff is fully aware that it may come into conflict with the managing committee of the hospital on which representatives of the friendly societies serve. The whole position is explained in the able letter by Dr. Reid, chairman of the Medical Board of the hospital, which is published in the Supplement, and nothing we can say will add to the force of his statement, which is tantamount to an appeal to the whole profession to support their brethren in South Wales.

The position already brought about emphasizes a point to which we have already frequently referred; this is, that there is urgent need for the Joint Committee of Insurance Commissioners to exercise the controlling and co-ordinating powers they possess in order to prevent the increasing dissatisfaction aroused in many parts of the country by the dictatorial or pettifogging proceedings of Insurance Committees, backed up, as in this case they have been, by the Insurance Commissioners responsible.

ANNUAL MEETING IN ABERDEEN, 1914.

The Aberdeen Branch has decided to invite the British Medical Association to hold its annual meeting for 1914 in Aberdeen. This announcement will, we feel sure, be received with great pleasure by members of the Association. Many of them will, we do not doubt, be glad to take advantage of the opportunity to visit a city which has taken so large a part in the intellectual development of Scotland, and has recently extended the facilities its University affords for academic instruction and research. To those who have never visited the "silver city by the sea," it will be a pleasure to see its stately buildings, and especially the magnificent pile recently added to Marischal College, which forms the medical side of the University.

ORGANIZATION OF THE PROFESSION IN SCOTLAND.

It becomes increasingly evident that the new problems created by the National Insurance Act will call for greater attention on the part of the profession in all parts of the country to questions of organization; and in regard to Scotland an important decision was arrived at by the Council at its meeting on April 23rd. For some years the special needs of Scotland have been dealt with by the Scottish Committee, which consists of the Secretary of each Scottish Branch of the British Medical Association and of all the members of the Council who represent the

Scottish Branches. After the Insurance Bill was introduced, and it was found that a Special Commission was to be set up for Scotland, the Scottish profession thought it necessary to set up an emergency organization called the Scottish National Insurance Council, composed of representatives of the Scottish universities and medical corporations, representatives from each insurance area, and the members of the Scottish Committee. The time has now arrived in the opinion of the Council of the Association when medical organization in Scotland should be put upon a more permanent and efficient footing. The Scottish National Insurance Council having served its purpose, the Scottish Committee has retired from it, and it is, we believe, probable that the first-named emergency organization will now be dissolved. At any rate, the Council of the Association has decided that the Scottish Committee shall be given a special grant for the purpose of employing a part-time officer for its clerical work, and to assist it in holding conferences, at least once a year, with representatives of the Scottish Local Medical Committees. Full power has been placed in the hands of the Scottish Committee to make arrangements for the holding of these conferences, and the Council is now considering the desirability of transferring to the Scottish Committee the entire duty of organizing the Branches and Divisions of the Association and the Local Medical Committees in that country. At present this duty is shared with other committees of the Association. It is believed that the new arrangement will enable the profession in Scotland to deal with its own peculiar problems under the Insurance Act in a more direct and efficient manner, that it will decentralize some of the work of the Association with advantage to all concerned, and will in addition give an impetus to the work of organizing the profession in Scotland by placing full responsibility for it to a much greater extent than before on a body thoroughly representative of all parts of Scotland, while not too large for regular meetings and effective committee work. At the same time the arrangement, being under the aegis of the British Medical Association, will preserve that co-ordination of the interests of the profession in the various parts of the United Kingdom which is so essential.

DIPHTHERIA ANTITOXIN.

IT is now more than eighteen years since Behring introduced his antitoxin for the treatment and prevention of diphtheria, and the efficacy of the treatment has been fully recognized. The statistics of the Metropolitan Asylums Board and of the various hospitals in this country and abroad have proved conclusively that if the injections are carried out early the disease can be cured with something like certainty. Dr. Eckert deals with a number of points which still require to be cleared up in connexion with this treatment, and which should be of importance to the practitioner as well as the laboratory worker.[1] He starts by calling attention to the endeavour of the manufacturers and institutes to produce a preparation of high valency at a reasonable price. It is possible to prepare a serum which contains 1,000 antitoxin units per c.cm. The addition of 0.5 per cent. of carbolic acid is of practical value, but he points out that 18 c.cm. of serum should be regarded as a maximum dose in view of the carbolic acid content. This would be equivalent to 9,000 units if the usual concentration is employed. The serum is standardized by Ehrlich's method, and Eckert considers that the French method of requiring an estimation of the curative power of the serum is unnecessary, and less reliable than the determination of the amount of serum required to neutralize a given quantity of toxin. With regard to the way in which the antitoxin acts he suggests three possibilities: there may be a reversible absorption of antitoxin by the toxin, or a chemical combination may take place with a complicated molecule, or the antitoxin having become absorbed with the toxin may permit the complement to act on the latter and effect a fermentative dissociation. It has been proved that absorption does take place, and it is possible to regain the toxin from the mixture by treatment with acids. The second assumption would explain a large number of difficulties, and has much in its favour. The third is certainly not excluded, but has not been proved. As to the practical question of the best mode of application, Eckert recalls the observation of Berghaus, who has shown that antitoxin, when injected intravenously, acts 500 times more strongly than when given subcutaneously, and that the quantity absorbed after intramuscular injection within four to eight hours is eight times greater than after subcutaneous injection. The serum has been given by intralumbar injection, but this method has not obtained any popularity. The importance of giving the serum as early as possible is supported by the experimental evidence. The curative value of antitoxin is demonstrated by the official German statistics. In spite of an increase in morbidity in 1907–1908, the mortality has fallen from 15.8 per 10,000 of the population to 2.3 and even 2 per 10,000. The statistics of the various hospitals show in the majority of cases that when antitoxin is used on the first day of illness the mortality is *nil*, when used on the second it varies between 4 and 8 per cent., and is correspondingly higher when first used on the third, fourth, or subsequent days. Heubner maintains that after antitoxin the membrane never spreads locally; that a large number of cases of diphtherial croup can be cured with antitoxin alone; that a considerable improvement has been shown in cases of measles and laryngeal diphtheria, and that the relapses which were greatly feared in the pre-antitoxin days are now rarely seen. After considering the question of dosage and stating that large doses, measured as antitoxin units, should be given, especially in severe cases, he discusses post-diphtherial paralysis. It is in accordance with experimental and clinical observations that the earlier the antitoxin is given the less frequent and the less severe will be the paralytic sequela. An important point in the treatment of diphtheria is that dealing with anaphylactic symptoms. We dealt with this subject not long ago.[2] Dr. Eckert recommends in cases of reinjection the trial of a small quantity of serum subcutaneously, which will not only indicate the necessity of caution, but will at the same time induce a certain degree of anti-anaphylaxis. In conclusion, attention may be called to an excellent account of the experience of the Rudolf Virchow Hospital in Berlin during the year 1910–1911 in the treatment of diphtheria, by Dr. K. Blühdorn.[3] The details given in this article generally confirm the statements made by Dr. Eckert.

[1] *Deut. med. Woch.*, October 24th, 1912.

THE LISTER MEMORIAL.

As has already been announced, the Committee of the Lister Memorial Fund proposes that the memorial should be of a threefold character: (1) A simple marble medallion bearing a sculptured portrait of Lord Lister to be placed in Westminster Abbey among the monuments of the nation's illustrious dead; (2) a larger and more conspicuous monument to be erected in some public place in London, the city wherein he lived and worked; (3) if funds sufficient shall be obtained, the founding of an International Memorial Fund from which either grants in aid of researches bearing on surgery or rewards in recognition of important contributions to surgical science shall be made, irrespective of nationality. The sum already subscribed or promised is perhaps sufficient for the completion of the

[2] BRITISH MEDICAL JOURNAL, October 19th, 1912, p. 1071.
[3] *Muench. med. Woch.*, No. 23, 1912.

first two parts of the proposed memorial, which are of local character, but for the third, or international part of the memorial, an international appeal is now being made, and a letter has been addressed by the Secretary, Sir John Rose Bradford, to the principal universities and medical societies on the Continent of Europe and in the United States. A similar letter is being sent to the corresponding institutions in the British Dominions and Colonies. Among the subscriptions received for the international fund are the following: Academy of Sciences, Paris, 500 francs; University of Paris, 500 francs; Medical Faculty of the University of Montpellier, 250 francs; and the Karolinska Medico-Kirurgiska Institutet, Stockholm, £5; His Excellency Privy Councillor Vladimir Kowalevsky, President of the Technological Society of Russia, has made a donation of £5 "in memory of one of the greatest benefactors of the human race." The Universities of Michigan, Yale, Harvard, and Leland-Stanford (California) have already undertaken to promote the memorial, and the College of Physicians of Philadelphia has made a special appeal to its Fellows. In addition, as already noted, Dr. Keen, of Philadelphia, is making a somewhat wider appeal. The University of Toronto has appointed a special committee to promote the fund. We published recently a list of contributions of various medical societies in this country, and to it should now be added a subscription of 10 guineas from the Medical Society of London. The honorary treasurers of the fund are Lord Rothschild and Sir W. Watson Cheyne. The offices of the fund are at the house of the Royal Society, Burlington House, Piccadilly, London, W., and subscriptions, made payable to the fund, may be sent to the treasurers there.

THE TUBERCULOSIS DISPENSARY AT WORK.

THE economic value of the tuberculosis dispensary, apart from considerations of tuberculin treatment, is now fairly well established, and, even if full allowance be made for the enthusiasm always attendant on any new system, there can be no doubt that a recognizable amount of immediate success has followed the cautious use of tuberculin injections. Personal opinions have mainly to be relied upon at present, since no fair conclusions can be drawn from statistics which necessarily range over a limited period of experience. Time alone will show whether the ultimate results have justified the vast expenditure that is being made to bring the unfit into the working line. Activity in this direction is manifest in many large industrial centres, and a good beginning appears to have been made in Bradford, where the energy of the chief tuberculosis officer is being exerted on sound lines, as shown in his report upon the work done in the Tuberculosis Dispensary and Brierley Hall Hospital during the second half of the year 1912. Although started as an entirely new venture, the number of persons attending for diagnosis or treatment bore testimony to the need for such an institution. Of 508 patients examined, no fewer than 403 were found to be suffering from the disease, and in many instances it was possible to examine their "contacts" also, with the result that in 27 per cent. of such cases the presence of incipient mischief was detected. The importance of this means of discovery and early disease can hardly be exaggerated, and stands second only to the need for segregation of the advanced infecting case. Efforts to eradicate consumption must necessarily be one-sided, so long as the spitting patient is allowed to mix with the healthy or with those who may be especially sensitive to the effects of the bacillus. But failing segregation there remains the ever-spreading influence of education, and herein the work of the dispensary is far-reaching. By its means the knowledge of the simple rules of general and special hygiene is carried into the very homes of the people. Reports of 50 cases of tuberculosis in various forms and stages which have been treated during the six months by tuberculin injections show a preponderance of present success, and have so far favourably impressed the tuberculosis officer as to warrant him in advising his committee to undertake a wide extension of the system.

THE PENAL SYSTEM.

THERE is an amusing misprint in the official reports of the proceedings of the House of Commons ("Hansard"), where, in an answer by the Chairman of the Joint Committee of Insurance Commissioners, the panel is printed the "penal" system. As the misprint occurs in a reply by Mr. Masterman dealing with an instance of the policy sanctioned by the Insurance Commissioners of penalizing the doctors in a district who have not thought fit to join the panel by introducing an outside doctor with special privileges for several years, the printer's devil seems for once to have been inspired from a higher source. Mr. Masterman admitted that the Commissioners had authorized the Leicestershire Insurance Committee, under the proviso to Section 15 (2) of the Insurance Act, to make a special arrangement whereby a medical practitioner had undertaken to attend and treat all the insured persons within certain parishes in the county on condition that he was given the exclusive right of practising among the insured persons in that area for a period of three years from January 15th last, and also that he would have the right of being included on a panel where a panel system existed. Mr. Cautley, in his question, had asked Mr. Masterman if he were aware that the cards of about 200 insured persons in the parishes concerned had been signed by their former medical attendant and desired to be attended by him, but, although he was ready and willing to attend them, the Insurance Committee had ordered them to go for medical treatment to the medical practitioner brought into the area from outside, stating that, if they went to their former medical attendant, they must do so at their own expense. Mr. Masterman did not reply to this part of the question, and appeared to be unaware of the facts, for he stated that the arrangement was made as a special arrangement under the proviso to Section 15 (2), because the alternative was that over 200 persons would have had no medical attendance at all. The result, as he further admitted, was that the insured persons in the district had no choice of doctor, but he appeared to believe that it was the best arrangement the Insurance Committee could make. Apparently, therefore, the Insurance Committee, with the sanction of the Insurance Commissioners for England, have forced upon the parishes in question a system approved neither by the medical profession nor by the insured persons.

LARGE FEES.

MILLIONAIRES are not always particularly liberal in rewarding the ministrations of their doctors. The business instinct which enables them to acquire vast wealth makes them always suspicious that their money may make them the prey of designing persons. This reproach cannot be brought against the executors of the late Mr. Pierpont Morgan, who, it is said, have paid very large fees in money to each of the three physicians in attendance and to the nurses. Other rich men have adopted unusual ways of feeing their doctors. It is related of Dupuytren that he was consulted several times by the head of the Paris house of Rothschild in his day. No fee was tendered at any of the visits, but a considerable time afterwards the surgeon was presented with a handsome sum, the proceeds of a Bourse transaction in which the financier had interested him without his knowledge. A Mr. Steer took the same way of expressing his indebtedness to Sir Astley Cooper, who had attended him as a friend. He sent the famous surgeon a draft, stating that it was the profit "on £2,000 of the ensuing loan, which I had an

opportunity, out of a very small sum Sir F. Baring has given me, of appropriating for your chance." A Mincing Lane merchant for years paid Cooper £600 a year for attendance. One of his largest fees was that given him by a West Indian merchant, Mr. Hyatt, who, after being operated on for stone, took off his nightcap and threw it at Cooper, saying: "There, young man, put that into your pocket." The cap contained a cheque for a thousand guineas. Sovereigns have sometimes considered that the honour of attending their august persons was a sufficient reward for their doctors, but there are many instances of princely generosity. Abu Nasr, who was believed to have saved the Caliph Nasr from the necessity of being cut for stone, is said to have received a fee equivalent in money value to £12,000, besides rich presents. Gabriel Bachtishua was paid by the Caliph, whose physician in ordinary he was, at the rate of £1,000 a month, and received a present of £1,250, besides robes of honour, every New Year's Day. On one occasion he is said to have received £25,000 as a single fee. Dimsdale, who went to Russia in 1768 to inoculate the Empress Catherine and her son, received a fee of £12,000, with a pension of £500 a year and the title of Baron, which is still borne by a descendant. In 1792 Dr. Willis (who had charge of George III in his periods of derangement) was called to Lisbon to undertake the treatment of the Queen of Portugal, who was suffering from mental disease, on the following terms: £1,000 a month as salary, the expenses of his journey, a table for himself and suite; and £20,000 if he succeeded in curing his illustrious patient. Willis was received at Lisbon with honours such as are usually reserved for royalty. Sir Morell Mackenzie received £13,000 for three months' attendance on the Emperor Frederick. But the largest fees paid by a monarch in modern times were those distributed among his medical attendants by Louis XIV after the famous operation for fistula. Like the public benefactor of whom it is recorded that

> He, out of his great bounty,
> Built this bridge at the expense of the county,

the Roi Soleil was liberal at the expense of his people. It is estimated that the *grande opération*, as it is known in French history, cost the nation some £40,000. Félix de Tassy, the operator, received 300,000 livres in addition to a landed estate. The surgeon was a favourite with the King, who two years before had given him 100,000 livres, and who four years later gave him a patent of nobility. The physicians present at the operation were also richly rewarded. D'Aquin received 100,000, Fagon 80,000, and Bessières 40,000 livres. Each of the four apothecaries received 12,000 livres. The apothecaries doubtless did something for their money, but the physicians were merely onlookers, and it must have been gall and wormwood to these haughty pedants to be compelled to leave the treatment of their royal master in the hands of one whom they despised as a mere handycraftsman.

DEATH IN THE STREETS.

DR. F. J. WALDO, Coroner for the City of London and the Borough of Southwark, in his annual report for 1912 draws special attention to a matter of great public interest—traffic fatalities. The conclusions formed by one possessing such unique opportunities of studying this question in all its details cannot fail to be interesting and instructive at a time when we are watching the transition from horse-drawn to motor vehicles. Dr. Waldo has come to the general conclusion that, bearing in mind the increase in the daily population of the City, there is no real increase in the number of traffic fatalities, and it will come as a surprise to many to learn that in the four years, 1908 to 1912, there were within his jurisdiction as many as 116 deaths due to the horse-drawn against 146 due to motor vehicles. Fatalities from motor traffic do not, in Dr. Waldo's opinion, depend on increased speed or to the particular method of propulsion, but certain factors, unavoidable at the present time, such as crowded traffic, narrow streets, loss of control, skidding, carelessness on the part of drivers, carelessness also on the part of pedestrians, who, it is said, frequently alight from a moving vehicle or cross the street without due regard to the traffic. In this last respect the death-roll is particularly heavy among children, for the records show that in the combined areas of the City and Southwark over one-fourth of the traffic fatalities occurred to children under ten years of age, while in Southwark alone, where the number of children is far larger, the proportion reached one-third. The County Council and the omnibus companies are trying to combat this evil by means of handbills, notices, and other means, but Dr. Waldo thinks that much could be done in the schools to teach children the danger of crossing streets without looking out for the traffic, and to impress upon them the fact that legal punishment as well as injury may result to them from riding upon or hanging to the backs of vehicles. To educate the children with regard to the dangers they incur would seem to be the only useful plan, for it would be unreasonable, even if it were possible, to deny them the use of the streets in poor districts. Dr. Waldo, although agreeing with the principle of the speed limit, doubts its value in crowded centres, for the driver is apt to think that he may travel in any circumstances at a speed not exceeding the limit; again, there is no means at present of accurately estimating the speed of a vehicle in a crowded thoroughfare, though Dr. Waldo looks forward to the day when the engineer will provide a speedometer that is thoroughly trustworthy and will sound a continuous alarm when the speed limit is reached, and so assist the police to detect offenders. He suggests that the police should be entrusted with wider powers; that more refuges should be established in long streets and between tram lines as well as at crossings, and that subways and even light bridges should be employed in especially dangerous localities. At present there appears to be no really satisfactory fender or life-guard that can be applied to motor vehicles generally, but were one forthcoming the fatalities might be very considerably reduced. Attention is rightly called in the report to the fact that the metropolis (with the exception of the City) is far behind the great cities of other countries in not possessing a rapid ambulance service, though there seems some prospect that the co-operation of the London County Council and the Metropolitan Asylums Board, with the ever ready assistance of the police, will in the future result in providing the greatest city in the world with what is now regarded as an elementary necessity in most civilized countries.

THE GREAT WATER SPOUTER.

THE note on the "Human Aquarium," published on April 26th, p. 904, recalls Floram Marchand, who is immortalized in several works on eccentric men, and in particular in *The Book of Wonderful Characters: Memoirs and Anecdotes of Remarkable and Eccentric Personages in all Ages and Countries*, published by Mr. Camden Hotten in 1869. Hotten drew his information mainly from an older collection of biographies by Wilson and Caulfield. According to *Wonderful Characters*, a Frenchman named Floram Marchand professed to be able to "turn water into wine and at his vomit render not only the tincture but the strength and smell of several wines and several waters." It was said that he learnt the rudiments of his art from Bloise, an Italian. Cardinal Mazarin suspected sorcery and threatened Bloise with pains and penalties, upon which the unhappy man made a confession to the Cardinal, who, it appears, was then satisfied that there was no magic about the performance. Marchand was induced by two Englishmen to come to England in 1650,

where he seems to have astonished the public for some time, to his great profit. At length his two friends seem to have betrayed him by publishing a somewhat circumstantial account of Floram Marchand's "mystery." He never broke his fast on the days when he appeared on the stage until after the performance, when he made "a very good supper and ate as much as two or three other men who have not their stomachs so thoroughly purged." Just before coming on the stage he swallowed half a pint of a strong decoction of "Brazil," or logwood, took a big pill of heifer gall and flour, and then drank several pints of tepid water lest the mucus ejected with the water should make the latter turbid and offensive to the spectators. Bowing to his audience, Marchand first brought forward a pail of lukewarm water and sixteen wineglasses in a basket. The glasses were all washed in white vinegar, and when he took up the first glass on the stage he rinsed it out two or three times lest the vinegar might "discolour the complexion of what is represented to be wine." Then he drank four-and-twenty glasses of lukewarm water and vomited first what "seemed to be a full, deep claret." The gall pill and the free imbibition of lukewarm water facilitated the vomiting process, which Marchand could at the same time control. He clearly was a man of much nerve, for timid orators and public performers have been known to retch when their stomachs were empty. The "claret" being ejected into the first glass, Marchand then drank as many glasses of water as his stomach would hold. But of necessity, the staining of the injected water by the "Brazil" already swallowed, grew less and less, so that he appeared to vomit light wines into the glasses which he placed on the table in succession, all rinsed, as at first. After several glasses were filled, he placed on the table another, without rinsing it. Then ejecting water into it, the faint trace of logwood mixing with the white vinegar would give the colour of English beer, and no doubt make a froth, although the chroniclers do not say so. Marchand continued these rather nasty tricks, throwing out a white wine, that is, pure water which seemed to be wine. By pure sleight of hand he also ejected rose water and angelica water, really taken out of two glasses concealed behind the pails of lukewarm water which he swallowed freely throughout his performance. In conclusion, Marchand managed to slip into his mouth a tin instrument with "three several (separate) pipes." Then he put his arms akimbo and shot out three jets of clear water to a distance of four or five yards, which he did "with so much port and such a flowing grace, as if it were his masterpiece." The book from which these particulars are quoted has a portrait of Floram Marchand in the act of shooting three jets of water into three wineglasses. He holds a fourth glass, empty, in his right hand, and behind him on the floor are a small pail and a fifth glass. We are not informed of the ultimate fate of this conjurer. The first necessity for a performance of this kind is a capacity for holding great quantities of fluid in the stomach and ejecting them at will; the illusions in Marchand's case were due to tricks above explained.

HOBBIES.

Every medical man should have a hobby; most medical men have one or more which they delight in trotting out on occasions. Mr. Shandy—who said so many true things—affirmed that he could "draw my Uncle Toby's character from his hobby-horse." We will not go so far as to attempt to draw Dr. Boon's character from his hobby-horse—which is evidently photography—but will advise those who have the opportunity, to visit the rooms of the Royal Photographic Society, in Russell Square, and try to work out the problem for themselves. Dr. Boon, who practises his profession at Alassio, shows forty-two specimens of his hobbyhorsical work. They are very beautiful and strangely unlike the pictures of the professional photographer. He seems to be equally clever with interiors and exteriors. As an example of the former, what could be more delicate and satisfying than "Breakfast" (No. 19), and of the latter than "The Sting" (No. 25), or "The Landscape" (No. 15)? Dr. Boon seems to love sunlight, and most of his figures are fully basking in it. But he does not use it for the purpose of throwing the other side of his picture into shade—as is so often done. He makes his children, his fields, and his flowers actually absorb all the glorious rays which fall upon them. No doubt he is fortunate in that he rides his hobby-horse in a place where the sun is no stranger. Indeed, he has made it his warm friend and his inseparable companion. The two seem perfectly and fully to understand each other, and to play delightfully into each other's hands. The number of the house in Russell Square is 35, and the only passport needed is a visiting card. Further than this, from the porter in the hall to the secretary in his office, every visitor seems welcome. Once more we advise our readers who are likely to be interested in these sun pictures to try to spend a half-hour with them.

SNAKES AND WILD ANIMALS IN INDIA.

A Blue Book has been issued giving statistics of the number of persons killed by wild animals and snakes in British India from 1880 to 1910. The figures show that the tiger is the animal most destructive to human life; during the last five years of the period it was responsible for 38 per cent. of the total number of deaths caused by wild animals, leopards accounting for 16, wolves for 12, and bears for 4 per cent. Of the total number of persons (2,382) killed by wild animals in the year 1910, the tiger accounted for 882, the leopard for 366, and wolves and bears for 428. Elephants and hyenas, the two other animals distinguished in the returns, were between them responsible for 77 deaths in 1910. Of the 629 deaths attributed to "other animals," 244 are assigned to alligators and crocodiles, 51 to wild pigs, 16 to buffaloes, 24 to wild dogs, and 220 to unspecified animals. In 1910 there were 22,478 deaths from snake-bite, compared with 21,364 in the previous year, but Bombay was one of the provinces which did not contribute towards the increase, and is in other respects one of the more fortunate parts of India. In Bengal, for example, 1,130 persons were killed in 1910 by wild animals and 7,767 by snakes; but Bombay is, with the exception of the Punjab, at the bottom of the list with 22 deaths by wild animals and 1,247 by snakes. The statistics regarding the number of cattle killed by wild animals are not very perfect, but it is estimated that in the five years ending 1910 the number of animals killed was about 100,000, leopards accounting for 48 per cent. and tigers for 32 per cent.

Dr. Monod of Vichy, at the conclusion of a cinematograph demonstration given before the Section of Medicine of the Royal Society of Medicine on April 29th, announced that M. Widal had arranged to afford facilities, in the new clinical laboratories under his control at the Hôpital Cochin, for British medical men who desire to undertake research work under his supervision, while at the same time making themselves acquainted with the medical resources of Paris and the ideals and methods of the French school. In this M. Widal will have the co-operation of some of his colleagues who are arranging to afford similar opportunities in their clinics and laboratories.

The new school buildings of Guy's Hospital Medical School will be opened by the Right Hon. A. J. Balfour, M.P., on Tuesday, June 3rd. The opening ceremony will be preceded by a luncheon at 1.30 p.m.

Medical Notes in Parliament.

[FROM OUR LOBBY CORRESPONDENT.]

Work of the Session.—In view of the great amount of time which has been taken by the consideration of the bills relating to the temporary discharge of prisoners and to the provisional collection of taxes, it is very doubtful whether all the measures which it was desired to pass this session will get through Parliament by an early date in August. There are still eighteen days to be devoted to Supply and the final stages of the Finance Act of the year, which is now to be divided into two bills. In addition, the Plural Voting Bill is to be passed, and the closure resolutions allotting the time for the passage of the Home Rule and Welsh Disestablishment Bills, together with those bills themselves. It is quite certain, from the feeling of the House, that any proposal to prolong the session beyond the date contemplated would meet with very strong opposition, and it is difficult to see how any other bills which are likely to meet with opposition can get through during the time remaining for the parliamentary session. The Mental Deficiency Bill is likely again to meet with considerable opposition from at least a small section of the House, and, without having any official knowledge, it is difficult to be sanguine as to the prospects of this measure and of the different Milk Bills promoted by the Local Government Board. The reply of the Prime Minister to the deputation, the proceedings of which are reported elsewhere, declining to promise Government support for the Nurses Registration Bill, makes it practically certain that the bill will not secure a second reading, and, in view of what the Prime Minister said, it would seem that a great deal more spade-work is required on the part of the supporters of this proposal and a much greater unanimity amongst the authorities interested before a measure of this character can find its way on to the Statute Book.

Railway Accidents and Coroners' Inquests.—A bill has been brought forward by Mr. Hudson, supported by members of the Liberal and Labour parties, to amend the law relating to coroners' inquests in the case of fatal accidents on railways. Its purpose is to secure that when an inquest is to be held on the death of any person occasioned by an accident on the railway, the coroner shall send telegraphic notice to the Board of Trade of the time and place of the holding of the inquest, and shall have power to adjourn the inquest if an inspector or some person on behalf of the Board of Trade does not attend at the time appointed to watch the proceedings. The adjournment, however, need not interfere with the taking of evidence as to identification, or with the issue of an order for interment. The bill also provides that the coroner may require things to be left as at the time of the accident until the holding of the inquiry, unless compliance with such an order would increase or continue a danger or impede the working of the railway, and it also provides that any relative of a person whose death has been caused by the accident, or any person appointed by the committee of the trade society or friendly society of which the deceased was a member, shall be at liberty to attend and examine witnesses either in person or by counsel, subject to the order of the coroner.

Sight Tests.—In reply to a question by Mr. Peto, addressed to the President of the Board of Trade, Mr. J. M. Robertson said that from April 1st, when the new colour vision tests were instituted, until April 22nd, 138 candidates for certificates of competency were examined at London and Liverpool; 125 of these passed the local tests, 5 failed, and 8 were referred for special examination at South Kensington. One who failed had not yet appealed, and one who was referred had not yet been specially examined. The remaining 11 had been specially examined, with the result that 7 passed and 4 failed. The lights shown in the lantern test represented ships' side lights at a distance of one mile. He saw no occasion to take any steps in the matter. In further reply, Mr. Robertson said that he was not able to admit any claim for compensation in the cases of those who failed to pass the tests.

Meals for School Children.—A short bill to amend the Education (Provision of Meals) Act (1906) has been introduced by Mr. Jowett, supported by members of all parties, whereby a local education authority would be authorized within the limits of the principal Act to provide meals for children ordinarily in attendance at any public elementary school in their area on any day of the week, including Sundays, whether the school is open or not—that is to say, during school holidays, if required.

Dental Inspection in Ireland.—In reply to Mr. Cathcart Wason, Mr. Birrell said that there were about 200 registered dentists in Ireland. A sum of £5,000 had been included in the Estimates for public education, Ireland, for the purposes of dental inspection in schools. The general principle on which the money was disbursed was a grant of £1 for each £1 of local contribution towards the total cost of dental inspection under each approved scheme.

Irish Creameries and Dairy Produce Bill.—In reply to Mr. Newman, who inquired as to whether it was not an understanding that this bill should be introduced into the House in the form in which it had been approved by the Advisory Committee on Dairying on October 3rd, 1912, Mr. T. W. Russell said that during the progress of the bill last session the House of Lords struck out a provision in Clause 1 which had been inserted at the request of the Board of Trade and the Board of Agriculture, and without which they declined to allow the bill to proceed. The only alteration of the slightest substance made in the bill as now introduced was the insertion of a subsection to Clause 1 which made the previous proviso clearer. In further reply to Mr. Muldoon, who inquired as to whether it was not a fact that the Irish Agricultural Society was hostile to the bill, Mr. Russell said that the Irish Agricultural Society was hostile to the views of the Board of Trade and the Board of Agriculture in this country, and to the proposal embodied in the proviso, which, however, he considered a necessary part of the bill. He could not admit that in trade circles the term "creamery" as applied to butter was universally understood to mean butter manufactured in an Irish creamery. The term might be used with perfect propriety in connexion with butter manufactured in an English, Scottish, or other creamery. Subsection (3) of Clause 1 of the bill would not, as suggested, have the effect of inferior butter being sold in England to the detriment of Irish creamery butter.

Artificial Colouring of Milk.—Mr. Charles Bathurst asked whether, in view of the fact that all, or very nearly all, the milk sold in London was artificially coloured by annatto to look like the milk of Jersey cows, and that thereby a false standard of quality was set up and London consumers deceived thereby, he would issue an Order prohibiting the dyeing of milk, and thus enable householders to judge of the quality of the milk by its appearance. Mr. Herbert Lewis replied that under the existing law the Local Government Board was not empowered to take action with regard to the process of colouring milk referred to in the question. This was one of the matters in respect of which it was proposed to take power to make Regulations under the Milk and Dairies Bill.

Scottish Prison Commission.—In reply to Major Hope, Mr. McKinnon Wood said that it was a fact that Dr. Devon's name was on the list of vice-presidents of the St. Rollox Liberal Association, but that he had been informed by the secretary that Dr. Devon had withdrawn from the association six years ago, and had not since subscribed to its funds or attended its meetings. He added that he was the best writer on criminology in Scotland; that his application had been supported by testimonials from magistrates, sheriffs, procurators fiscal, and others, many of them Unionists, who supported him on the ground of his eminent fitness for the post, and that his promotion had been welcomed by the *Glasgow Herald* as a "very popular" appointment.

England and Wales.

[FROM OUR SPECIAL CORRESPONDENTS.]

SHEFFIELD.

Insurance Act and Hospitals.

The Sheffield medical charities, on the initiation of the panel system, issued a joint statement regarding their attitude towards insured patients. The only alteration of procedure is that an insured patient who after medical examination is found to be suffering from a condition which can be adequately treated by his panel doctor is referred to that doctor. As might be expected, this has not resulted in any material diminution of in-patient work. The casualty out-patient departments have been affected to the extent of several hundred cases a week. There has been very little friction, and one case only has been reported and discussed before the Insurance Committee; in this a medical man refused to take the responsibility of dressing a case of injury to the hand by a piece of steel. It was felt that there had been some misunderstanding, and that a private communication to the doctor would meet the case.

School Medical Service.

Some indications of the rapid growth of this public service are visible in the scheme for new premises for the School Medical Service. These will be situated in Sims Street. The capital outlay on land and buildings is estimated at £12,300. About one-fourth of the building will be used for the purposes of a public tuberculosis dispensary, three-fourths being available for the School Medical Officers' Department. A report presented by the School Management Subcommittee expressed the hope that the Local Government Board would contribute £1,000 towards the capital outlay, while the Board of Education would defray approximately 50 per cent. of the annual outlay on the School Medical Officers' Department. But at the meeting of the Education Committee on April 29th, Mr. Harland stated that the Local Government Board could not defray any capital expenditure, but would contribute a sum towards the annual charge for services of debt, so that in the long run it was considered only about one-half the total cost would be put upon the rates.

There are also two new proposals with regard to open-air schools. At present there is an open-air school for 100 children at Whiteley Woods, about four miles from the centre of the city. The children are taken to the school in motor buses, but at the end of the day walk about one mile downhill to the nearest tram terminus. This makes the school rather expensive, and has hitherto limited its utility, as many tuberculous children could not undertake this walk, so that the school has been attended mainly by cases of "anaemia and malnutrition." The school has also been closed during the winter months. It is now proposed to convert it into a sanatorium school by acquiring some adjacent land and providing dormitory accommodation for forty children at an approximate cost of £1,300 for land and building. The cost for food is now £375 for 100 children (2s. 6d. a week a child provides all meals for the five days on which the children attend), whilst under the new scheme, whereby the school would be open throughout the year, for forty children it would come to 3s. 6d. a week or £364 per annum.

It is also proposed to open a new open-air school at Northfield Road, Crookes. This school is close to one of the tram routes, and it is hoped that the cases of anaemia and malnutrition which have hitherto been treated at Whiteley Woods will be treated here at a much smaller annual expenditure.

A grant of £1,502 4s. 6d. has been received in aid of expenditure incurred in the medical treatment of school children, and £183 15s. towards the cost of the present open-air school.

Accommodation for Cripples.

The King Edward VII memorial in Sheffield has taken the form of an Institute for Crippled Children. The committee of the institute has approached the Education Committee and asked its co-operation in framing a scheme "by which the management and maintenance of the crippled children's institution shall be undertaken by the Education Committee, subject to a proviso that the trustees of the institution shall have the option of the first call on a number of beds, subject to terms in respect thereof being from time to time arranged." The Chief Medical Officer of the Board of Education has stated that such a scheme would receive sympathetic consideration. A preliminary estimate of the annual expenditure, on a basis of provision for 120 children, is £4,839, of which about £2,000 would be required from the rates. It was stated that from £70 to £90 a bed, or a total of £9,600, would be given towards the cost of the building, the remainder of the total, £30,000, being provided by public subscription.

NEWCASTLE-UPON-TYNE.

Officers of the Newcastle Division of the British Medical Association.

An event of more than local interest took place in Newcastle on April 25th, when a dinner was given in honour of the officers of the Newcastle Division of the British Medical Association. The gathering included some eighty medical men practising in the locality. The officers in whose honour they were assembled were: The Chairman of the Division (Dr. Andrew Smith), the Chairman of the Local Medical Committee (Dr. James Don), the Representatives at Representative Meetings (Dr. J. W. Smith and Dr. R. A. Bolam), and last, but not least, Mr. R. J. Willan (Surgical Registrar at the Royal Victoria Infirmary), who is Honorary Secretary of the Division. The chair was taken by Dr. J. D. Farquharson, who followed up his speech in honour of the guests of the evening by making presentations to each of them on behalf of the local profession. The principal gift was that made to Dr. Willan; it consisted of a silver tray and rose-bowl, inscribed:

Presented to R. J. Willan, F.R.C.S., in grateful appreciation of invaluable services rendered in strenuous times, 1911–13.

In making the presentations Dr. Farquharson remarked that, though it could not be claimed that the battle was entirely over, the Division could at least feel that the honour and dignity of the profession had been maintained under the wise leadership of those whom it had put into responsible positions. Despite many disparagements and discouragements, something to balance the account had been obtained. To Mr. Willan primarily they owed much of what had been accomplished. The Division deeply regretted that it was about to lose Mr. Willan as secretary, and did not intend to allow him to escape into the backwoods of obscurity. To their other guests he would say that the gifts made to them were accompanied by their hearty and grateful thanks for the work they had performed.

Each of the guests in turn made acknowledgement, Mr. Willan observing that he still hoped to serve the Division as secretary of its scientific meetings. A large section of the profession still resented the Insurance Act, but in Newcastle it was working somewhat better than had been anticipated. The Act required substantial amendments, and one subject which should be considered by the Commissioners was that of compensation. There were plenty of precedents for such compensation in connexion with former legislation, and plenty of need for it in the present instance. Certain practitioners, whose cases he proceeded to detail, had had their private practices totally destroyed by the operation of the Act. The future of the medical profession depended very largely on the British Medical Association. There were a few malcontents who had threatened to resign their membership, but remarkably few had actually resigned. The action of the latter seemed to him nothing short of contemptible, bearing in mind what the Association had done for them. The British Medical Association must receive the whole-hearted support of the profession.

This latter note was also struck by Dr. James Don, who said there would be need for unanimity even more in the future than in the past. The proceedings concluded after the health of the Chairman had been drunk, on the proposal of Sir Thomas Oliver, and duly acknowledged by Dr. Farquharson.

BIRMINGHAM.

THE CHILDREN'S HOSPITAL, BIRMINGHAM.

ON April 23rd Her Royal Highness Princess Louise, Duchess of Argyll, accompanied by the Duke of Argyll, laid the foundation stone of the new buildings of the Children's Hospital, and unveiled the statue of King Edward VII. The statue and the new hospital, which is to be called the King Edward VII Memorial Children's Hospital, have been provided by public subscriptions "in loyal commemoration of the beneficent life and reign of a beloved monarch." These words will form part of the inscription to be carved on the back of the statue.

Her Royal Highness was received at the entrance of the site of the new hospital by the Lord Mayor, and there were also present the High Sheriff of Warwickshire, Sir Francis E. Waller, Bart., the Bishop of Birmingham, Major-General Keir, C.B., and the following representatives of the hospital: The President, Mr. Edward Cheshire; the Chairman of the Committee, Mr. Walter E. Pearson; the Chairman of the Medical Board, Mr. L. P. Gamgee, F.R.C.S.; and the Matron, Miss Tison Clarke.

The old Children's Hospital, which is now situated in Broad Street, was established in 1861 by the late Dr. Haslop in a private house. When the Lying-in Hospital vacated its buildings in 1870, they were converted into the in-patients' department of the Children's Hospital, the out-patients being retained on the old site, and a building, in the Gothic style, erected to accommodate them. The in-patient department was enlarged by the addition of detached wards in 1878, so that it contained sixty-two beds. In 1912 the number of patients treated at the hospital was 13,826, and of these 845 were in-patients, and 12,981 out-patients and casualties.

For many years there has been great difficulty in carrying on the work of the hospital in a full and efficient manner, owing to the age and inconvenient arrangements of the buildings. The hospital had become quite unfit for the increased demands made upon it, while the accommodation for the nurses was so deficient that they had to be quartered in four different buildings inconveniently scattered. In 1908 the committee issued a special appeal for the rebuilding of the hospital, and a new site was bought. Not enough money was subscribed to justify the committee in starting building operations, but in 1910 the rebuilding was made possible by the action of the proprietors of the *Birmingham Daily Mail*, who opened a King Edward Memorial Fund. The sum subscribed by their efforts was £32,808, and of this £2,700 has been devoted to the erection of the statue. The total cost of building and furnishing the new hospital is estimated at £62,000; including the contribution from the Memorial Fund, the hospital committee has in hand about £49,000, so that a further sum of £13,000 is required if the new building is to be opened free from debt.

The Memorial Hospital is being erected on an extensive site in Ladywood Road, and will be well situated, as it can easily be reached by omnibus, tram, or train. The administrative offices front on Ladywood Road, and here are arranged the quarters of the resident medical staff and the board room. At the extreme end on the right wing there will be a small out-patient department, for it is not proposed for the present to remove the out-patient department from the existing building. On the other wing there will be a large recreation room for the nursing staff. The wards, six in number, on three floors, in the rear of the administrative block, will be approached by a main corridor. Each ward has folding windows along the greater part of the southerly frontage, so that nearly the whole of one side of a ward can be opened. Each main ward will contain fourteen beds, and, attached to a smaller ward of five beds in which a warmer temperature can be maintained, a small room for the reception of children and where surgical dressings can be removed and medical examinations made, and the usual sanitary annexes. The hospital will provide accommodation for about 150 beds. The operating theatres are on the top floor in the centre, and are reached by a lift. The floors are to be made of fire-resisting reinforced concrete, and there will be an emergency staircase from each ward. There will also be an isolation ward for infectious patients, a laundry, and a pathological department.

Ireland.

[FROM OUR SPECIAL CORRESPONDENTS.]

THE LATE DR. CECIL SHAW.

THE following resolution was adopted at the meeting of the Senate of Queen's University, Belfast, on April 16th, on the motion of Dr. J. Walton Browne, seconded by Sir Peter O'Connell:

> That the Senate have heard with very great regret the announcement of the death on April 10th of Dr. Cecil Shaw, lecturer in the university on ophthalmology and otology. They desire to place on record their sense of the eminent services which Dr. Shaw rendered to the advancement of the special branches of medical science to which he devoted himself, and to their teaching both here and in the hospitals in which the students of our medical school receive their clinical training. They request the Vice-Chancellor to convey this resolution to Dr. Shaw's widow, with the assurance of the Senate's sincere and deep sympathy with her in her bereavement.

At the meeting of the Ulster Medical Society, under the chairmanship of its president, Dr. Richard Whytock Leslie, on April 17th, the following resolution was placed on the minutes on the motion of Professor J. A. Lindsay, seconded by Professor Symington:

> The fellows and members of the Ulster Medical Society desire to put on record their deep sorrow at the death of Dr. Cecil Shaw and their sense of the serious loss which the society and the medical profession have thereby sustained, and they desire to convey their sincere condolence to Mrs. Shaw and other relatives.

THE AMALGAMATION OF IRISH WORKHOUSES.

Mr. J. G. McSweeney, Local Government Board Inspector, who attended a recent meeting of the Clogheen Guardians to urge the necessity of a sewerage scheme for the workhouse, which has recently been furnished with a new water supply, was questioned on the matter of Poor Law reform; he said that he did not think those present would see amalgamation. It would cost 6 millions to carry out. Matters, he said, would mould themselves in time, and the necessities of the times would make such a place as the Clogheen Workhouse more and more of a district hospital with larger medical staffs.

At the last meeting of the Glenamaddy (co. Galway) Board of Guardians a report was read from the Local Government Board Inspector, containing complaints as to the condition of the workhouse. There were, it was alleged, no beds for the infirm men and women, and they were allowed to sleep on the floors. The Clerk, however, said that the infirm inmates had been sleeping on stretchers, and that they slept so near the floor that if they fell out they would not be hurt. An order to procure the necessary number of beds was nevertheless made.

SALARIES OF DISPENSARY MEDICAL OFFICERS.

For the thirteenth time in ten years the Carrick-on-Suir Board of Guardians have marked "Read" applications for increased salaries from the dispensary medical officers in the service of the board. Two of the doctors have each £80 a year, two £100, and one £115.

THE MENTAL DEFICIENCY BILL.

The Committee of Management of the Down District Asylum has passed a resolution expressing regret that Ireland is again excluded from the proposed benefits of the Mental Deficiency Bill. It points out that in the absence of other specialized institutions persons of the mentally defective class are received into the district lunatic asylums in Ireland, and that in consequence the yearly expense has been unduly increased, while at the same time there has been a yearly decrease in the grant-in-aid. It is suggested that a grant-in-aid should be provided for in the bill, and that, pending legislation, the said grant should be supplemental to the 4s. grant-in-aid, and paid to the different asylum authorities in the country.

MEDICAL PROGRESS IN BELFAST.

The *Belfast Evening Telegraph* of April 23rd contains a number of "tercentenary messages" in which the development of Belfast in various directions is traced by writers having special knowledge of the subject. One of the most interesting of these is a history of medical progress, by Sir John Byers. A very notable feature in

that history, since he began practice, is the growth of laboratories. Since 1894 new chemical, physiological, and pathological laboratories have been opened at Queen's College, Belfast (now the Queen's University of Belfast), a movement which has led to the establishment of a school of research workers, whose original contributions in many departments of medicine have brought the greatest credit upon the Belfast School of Medicine. When the buildings now in course of erection at Queen's University are completed there will also be new anatomical, physical, natural history, pharmacological, and public health laboratories. Sir John Byers thinks that one of the most important new developments will be the King Edward VII Memorial Block, which is shortly to be erected in connexion with the Royal Victoria Hospital. There, he says, it will be possible to employ for the benefit of patients as well as for the education of students the very latest practical applications to disease of chemistry, electricity, *x* rays, Finsen light, radium, haematology, and vaccine therapy. Another notable feature in the medical progress of Belfast is the growth of hospitals. At the outset of Sir John Byers's professional career, with the exception of the old Belfast Royal Hospital and the Throne Convalescent Hospital attached to it, the District Lunatic Asylum, and the Infirmary and Fever Hospital at the workhouse, the only other hospitals were the Hospital for Cutaneous Diseases, the two Eye Hospitals, the Samaritan Hospital, and two Children's Hospitals. With the growth of the city and the development of specialization, the Hospital for Nervous Diseases (1896), the Mater Infirmorum Hospital (opened in 1883), and the Forster Green Hospital for Consumption have come into existence. In 1897 two cancer wards were added to the Samaritan Hospital for Women; in 1905 the Belfast Maternity Hospital, founded in 1794, was removed to its present site in Townsend Street; in 1903 the new Royal Victoria Hospital was opened by King Edward VII; and last year the new Ulster Hospital for Children and Women was opened in Ballymacarrett. During the same period the Belfast Board of Guardians has erected within the grounds of the workhouse, where they have accommodation for about 1,700 patients, a new maternity (1892), a new nursing home (1901), and the large "Dufferin" Hospital for Children (1907), while at "The Abbey" they have established and equipped one of the finest consumption sanatoriums in any country; it is about to be taken over by the City Corporation in connexion with their new scheme for dealing with the problem of tuberculosis. The public health department of the corporation in 1903 established a self-contained small-pox hospital with 60 beds, and in 1906 opened the municipal fever hospital at Purdysburn (containing 168 beds); this is shortly to be enlarged to provide accommodation for 100 more patients. In 1902 the Belfast Asylum was separated from the county of Antrim, and its further development to its present fine condition at Purdysburn has taken place under the auspices of the City Corporation. There have also sprung up all over the city private hospitals or nursing homes for patients who are able to pay for treatment. Another direction in which there has been an enormous advance is State medicine. Since Sir John Byers entered the medical profession the most important public health reforms in Belfast have been—

The regular and systematic removal of house refuse; house to house inspection;
The notification of infectious diseases and tuberculosis; the provision of the municipal fever hospitals at Purdysburn; house disinfection and disinfection of clothes; the notification of births, with early visitation by female inspectors in such cases;
The demolition of insanitary dwellings;
The provision of bacteriological examination of specimens;
The supervision of food supplies;
The improvement in the drainage of the city; the more complete inspection of dairies; and the provision of public baths.

As for the water supply, when the Belfast City and District Water Commissioners have, in accordance with their Act passed last year, constructed the great reservoirs in the valley of the Annalong river and in the valley of the Kilkeel river, there will be, he thinks, no city in the United Kingdom possessing a more perfect water supply than Belfast.

BRITISH DAIRY FARMERS' CONFERENCE.

The British dairy farmers are to hold a conference in Dublin from May 17th to 27th. An inaugural dinner will be held in Dublin on May 17th, at which it is expected that the Lord Lieutenant, the Countess of Aberdeen, and the Right Hon. T. W. Russell will be present. On May 19th the party will visit Straffon House to inspect the herd of pedigree shorthorns, one of the largest in the United Kingdom, and in its formation special attention has been given to milk production. The conference will be opened in the Royal College of Science in the evening. Among the subjects to be discussed are the elimination of the unprofitable cow, and the improvement of Irish dairy cattle. Various dairies and creameries will be visited throughout the country, and Mr. John Wills's herd of Kerries will be inspected. The conference will visit such places as Thurles, Limerick, Adare, Killarney, and Cork.

Scotland.

[FROM OUR SPECIAL CORRESPONDENTS.]

EDINBURGH AND THE INCLUSIVE FEE IN MEDICINE.

AT its meeting, on April 21st, the Edinburgh University Court had under consideration a letter, dated March 31st, from the Lords Commissioners of His Majesty's Treasury, stating, with regard to the inclusive fee in medicine, that they were content that the University Court should await some further experience of the working of the inclusive fee before finally deciding whether it could be instituted or not in medicine and applied science. The next sentence in the letter was as follows:

My Lords are giving directions for the payment of the additional grant of £12,500 for the current financial year, but they must stipulate that, as a condition of receiving payment of the full amount of grant for which provision is made in votes of Parliament 1912-13, the Court will appoint a committee to inquire fully as to the difficulties in the way of instituting an inclusive fee in applied science and medicine, and as to the possibility of surmounting them, and they will be glad to learn that the Court agree to this course being adopted, and to receive the report in due course.

The University Court resolved to comply with the condition attached to the receiving of the grant—the appointment of a committee being a step which, in the circumstances, the Court of its own motive would have taken. The lecturers of the extra-mural school also discussed the question of the inclusive fee in medicine and applied science at a meeting on April 22nd; but no conclusion was then reached.

EDINBURGH MEDICAL MISSIONARY SOCIETY'S TRAINING HOME IN AGRA.

The Edinburgh Medical Missionary Society's Training Institution for Medical Missionaries in Agra has suffered a severe blow in the sudden death of Dr. William Huntly, the superintendent of the institution. Dr. Huntly was taken ill with pneumonia, and died on April 11th. The institution exists for the purpose of aiding in the training of Christian lads of the Agra Medical School who wish to become medical mission assistants, and twelve of these young Indians were under Dr. Huntly's care.

BACTERIOLOGICAL WORK IN PRIVATE PRACTICE.

As showing what can be done in connexion with bacteriological work in private practice, Dr. Lachlan Grant, Ballachulish, Argyllshire, forwards two reprints giving the results of one year's work in his private laboratory. In this laboratory he prepares his vaccines and 63 cases received vaccine treatment. Besides the preparation of vaccines Dr. Grant made numerous examinations of sputum, blood, throat cases, etc. Dr. Grant pleads for the establishment of laboratories for bacteriological work throughout the Highlands, under the control of the Local Government Board or county council. As the outcome of the Dewar report it is more than likely that facilities will be given for such work being carried out under Government control. Much credit is due to Dr. Grant for the work he has been doing in his private laboratory.

TUBERCULOSIS ADMINISTRATION IN EDINBURGH.

It will be remembered that in a former number (p. 850) the meeting of the expenses of the proposed tuberculosis administration for Edinburgh and other matters connected therewith were referred by the town council to the Treasurer's Committee for report. That Committee met on April 25th, when it was agreed to send the whole question to a subcommittee.

EDINBURGH PARISH COUNCIL APPOINTMENTS.

The little group of appointments which were referred to some weeks ago (p. 631) in connexion with Edinburgh Parish Council were made on April 28th. Dr. T. Y. Finlay was appointed medical officer, Craiglockhart Poorhouse; Dr. W. L. Martin was appointed consulting physician, Craigleith Poorhouse; and Mr. Lewis Beesly, consulting surgeon for Craiglockhart and Craigleith Poorhouses.

Special Correspondence.

PARIS.

Cystic Angioma of the Abdomen.—Hereditary Tuberculosis.—Tuberculosis or Hereditary Syphilis?—Pregnancy Complicated by Ovarian Tumour.—Ethmoidal Headache.

THE Congress on Pediatrics and Obstetrics was held in Lille from March 25th to 28th, under the presidency of Professor Pozzi. M. Gorse of Lille reported a case of cystic angioma of the abdomen in a child aged 4 years on whom the diagnosis of right inguinal hernia was first made. The operation revealed the fact that the condition was really one of large retroperitoneal cystic angioma. Pathological examination showed that the condition was due to a lymphomatous cyst.

M. Delcarde added one more to the few recorded cases of hereditary tuberculosis. The mother was known to be tuberculous, and the child when born was taken away from her, but it fell ill and died. *Post mortem* no organs were obviously affected, but the bacillus was found abundantly in the pulp of the spleen, and guinea-pigs inoculated with the organs rapidly died of tuberculosis.

The subject of pseudo-tuberculous manifestations in hereditary syphilitic children was discussed by MM. Tridon, Le Fort, and Vidal. M. Le Fort remarked on the fact that cervical adenitis, cutaneous ulcerations, and disease of the bones and joints were frequently diagnosed tuberculous, when in reality the condition was due to hereditary syphilis, a diagnosis frequently confirmed by the Wassermann reaction. M. Vidal agreed with this, and said that in Algiers such cases, especially in the native population, showed marked improvement under treatment with mercury and iodide.

MM. Vauvert and Puech, in discussing the treatment of tumours of the ovary complicating pregnancy, expressed the opinion that during the first six months of pregnancy operation should always be performed, whereas during the last three months operation should only be performed when absolutely necessary. The tumours most difficult to deal with were pelvic cysts, which might cause abortion, prolapse of the cord, inertia, or even rupture of the uterus.

Dr. Guisez read an interesting paper at the Academy of Medicine on migraine of ethmoidal origin. In each one of 70 cases studied the complaint made was of severe repeated attacks of headache. In several trigeminal neuralgia was the first diagnosis made, and the treatment in some cases was medical; in some the nerve was operated on. In all these cases the pain was generalized at first over the head, and finally became most severe in the frontal region. That it was due to a vaso-congestion of the upper part of the nasal fossae and in the orbital plexus of the veins was shown by the congested appearance of the upper fossae, by the seat of pain, and by the marked improvement following applications of cocaine and adrenalin. He recommended as the only satisfactory treatment the removal of the front of the middle turbinate.

VIENNA.

Appointment of Professor Kraus to Buenos Aires.—Compulsory Vaccination in New Austria.—Instruction in Medical Ethics.

PROFESSOR RUDOLF KRAUS, whose name has become well known lately owing to the circumstance that he was called upon by the Bulgarian Government to deal with the outbreak of cholera during the Balkan war, has now accepted a proposal of the Argentine Republic that he should place his knowledge at its disposal. A large and very up-to-date institute for combating the prevalence of infectious diseases has been erected in Buenos Aires, and of this establishment it has been arranged that Professor Kraus shall be the director. His financial and social position in the Argentine will be very satisfactory, and his opportunities for scientific work will be of the most extensive kind. Among other duties he will have to organize, so to say, the prophylactic and therapeutic crusade against infectious disease of all kinds among cattle (the chief source of Argentina's wealth) as well as among the human population. Naturally the prospective loss of such an eminent teacher and investigator is greatly felt in Viennese scientific circles, and his very popular lectures on immunity will be much missed by students. He has arranged to leave in the summer.

An interesting law has recently been promulgated in the two provinces of Bosnia and Herzegovina called "New Austria." These provinces contain about 2 million inhabitants spread over an area of some 20,000 square miles, and hitherto have had few sanitary regulations except those of a kind easily enforced. Owing to the war there has been a large influx of immigrants, numerous Turkish families having sought refuge and a new home in these Austrian provinces. Hence the danger of small-pox and other infectious diseases being spread has been undoubtedly increased. For this reason vaccination is to be compulsory, and the law comes into force at once. Every healthy child must be vaccinated before it reaches its third year of age. It will be exempt if meanwhile it is attacked by true small-pox, or if it is deemed too weak to undergo the process safely. But this exemption is only temporary, for on reaching its eighth year every child must be revaccinated. If the first attempt at revaccination is ineffective the procedure must be repeated a year later. If this, too, is without effect another attempt must be made two years later. Each vaccinated child must be reported to the board of health, and in each case in which vaccination has been postponed or remains without effect, a report, with details, must also be sent to the board. Any practitioner besides the public vaccinator is entitled to vaccinate. No child which is not marked by small-pox may be admitted to school without a certificate of effective vaccination. It is intended to make vaccination compulsory also for grown-up persons within a short time.

The Association of Vienna practitioners has instituted a series of lectures for students of medicine and for practitioners, dealing with problems of medical ethics and economics. Some specific subjects with which they will deal are the following: The relations between the general public and the practitioner; the problems of State and contract practice; and the relations between general practitioners themselves and consultants. The vexed problems of income and other taxes, the legal rights of medical men and the forensic duties of medical men, and those duties in regard to notifications of births and deaths and infectious diseases, are also among the topics. The experiment (for such it was at the outset) has now become an important part of the unofficial equipment for preparing the young doctor for the struggles of practice—and the battle of clubs!

THE fourth International Congress on School Hygiene will be held at Buffalo, New York, in August next (25th to 30th), under the patronage of the President of the United States. The congress will be attended by delegates from all the leading nations, and from every university and college of note in the States and from many educational, medical, and hygienic organizations. All communications relative to the congress should be addressed to Dr. Thomas A. Storey, College of the City of New York, N.Y.

Correspondence.

THE MILWARD FUND.

SIR,—It was my privilege to know Dr. Courtenay Milward, and I was shocked to read in the JOURNAL of his untimely death on April 9th. His charm of manner always greatly impressed me, but what struck me above all things was the strenuous, whole-hearted, and self-sacrificing efforts which he was making to help the profession in our fight against the injustices of the Insurance Act.

He was one of few plucky ones who refused to break their pledge and join the panel until released by the Association, even though this refusal was detrimental to his own interests, and I appeal most earnestly to the profession to see that his wife and children do not suffer for his devotion to our cause.

For very shame let us not neglect our clear duty and privilege to mark our appreciation of a gallant English gentleman.—I am, etc.,

JOHN F. WALKER,
Southend-on-Sea, April 28th. Representative, S. Essex.

RHEUMATOID ARTHRITIS.

SIR,—With reference to Sir James Barr's letter in your last issue, I cannot regard translucency of the ends of the bones, as exhibited in some skiagrams of the affected joints in cases of rheumatoid arthritis, as proof of the extraction of lime salts from the fibrous tissue, muscles, nerves, cartilages, and bones. This is his only answer to my question as to the evidence on which he based his opinion that the proximate cause of the disease is "a mild chronic acidosis, which extracts the lime salts from the fibrous tissue, muscles, nerves, cartilages, and bones."

Sir James Barr recommends me to sharpen my wits by the administration to myself of phosphoric or citric acid, but, if the tone of his letter is an illustration of the direct effect of this treatment on his own person, I would rather abstain from following out his advice to similarly experiment on myself.

Sir James Barr liberally showers his gibes upon me, but I can assure him that I remain unaffected by them, and I am quite incapable of either adopting his peculiar polemical style or of replying in similar terms to his remarkable animadversions.—I am, etc.,

London, W., April 26th. ARTHUR P. LUFF.

SIR,—The illuminating address by Sir James Barr, published in the BRITISH MEDICAL JOURNAL of April 12th, 1913, will be received with enthusiasm by very many physicians who have been puzzled and perplexed with the pathology of rheumatoid arthritis and more than disappointed at the futility of the most vaunted method of treatment—that of potassium iodide and guaiacol carbonate.

According to Dr. Luff, in a letter in the issue of April 19th, Sir James Barr has been "very iconoclastic in his attitude towards former workers and writers on the subject." But is this statement quite correct? Bath has been the Mecca, so to speak, for very many years for those afflicted with rheumatoid arthritis. Now, upon examination, what do we find? The mineral waters of Bath contain 111.5 grains of calcium per gallon in unknown association, but given in the analysis made by the *Lancet* laboratory as sulphate and carbonate. Personally I have always favoured the drinking of the mineral waters, rather than the bathing, in rheumatoid arthritis, and, if the patient will take as much, prescribe 20 oz. twice daily. At the time they are drinking this water I give them treatment daily for twenty minutes with the static wave current with a voltage up to 100,000. This acts generally upon the tissue metabolism of the body and at the same time raises the tone of the system as a whole. During the past six years I have been following this method with complete satisfaction to all interested. The beneficial results which have accrued have surpassed anything I at first expected, but the time required for the reparative process is from two to three years, giving a month's treatment as above described twice yearly.—I am, etc.,

Bath, April 28th. GEORGE E. BOWKER, M.D.

SIR,—So far as I am concerned a few lines will suffice for my reply to the cursory glance and cursory remarks of Dr. James Craig of Llandudno in your issue of April 26th. In my opinion rheumatoid arthritis, as a prolonged disease, is a standing disgrace to the medical profession. The disease should be early recognized, the cause removed, and the patient cured. I do not take the recommendations of Dr. Craig too seriously, but if they be, as he says, new, then I feel inclined to say in this case what is new is not true.

I have heard about the use of vaccines in this disease, but let us hope that the serums only exist in the brain of Dr. Craig.—I am, etc.,

Liverpool, April 26th. JAMES BARR.

DILATATION OF THE CERVIX IN ECLAMPSIA.

SIR,—Dr. Gibbons, in his lecture on puerperal eclampsia, refers to dilatation of the os uteri by means of Bossi's dilator, and expresses the opinion that it requires great care to avoid lacerating the cervix in its use. Bossi's dilator is an apparatus I have no liking for; it seems a most unmechanical idea to expand a circle by means of the angles of a square. The risk of tearing the cervix increases the more widely the blades are separated, as no support is afforded to the portions of the cervix between the blades.

A method which I devised about five years ago, and have not seen described elsewhere, seems to me to be superior to dilatation with this instrument. I first employed it in a case of puerperal eclampsia at the seventh month of pregnancy, in which I decided to empty the uterus by rapid dilatation of the cervix. I had no dilators with me except Hegar's, and these I used as follows: Dilatation was proceeded with as usual up to No. 26; this was then withdrawn, and three smaller sizes were inserted together. Another small one was then pushed in, in the middle of the three. When they were felt to be less tightly gripped another was added, and others again as dilatation proceeded, until there was a large bunch in the os, which eventually was sufficiently dilated for me to be able to deliver with forceps.

It is an easy matter with this method to determine how rapidly the os is responding to the pressure of the dilators, as the action is the same as with the dilators used singly. The pressure is evenly distributed round the os, and the risk of laceration is thereby reduced to a minimum.

The single-ended Hegar's dilators are the most suitable for this method; I have no doubt that Hawkins Ambler's form would be equally convenient, but these I have not tried.—I am, etc.,

Huddersfield, April 26th. CLEMENT ROGERSON, M.D.Lond.

THE FORM AND POSITION OF THE STOMACH.

SIR,—After reading Mr. Gray's letter in your issue of April 19th and finding my writing extensively quoted, I can only say, "Is it possible that such an interpretation can be given?"

That this "middle sphincter" is, if it exists, of no practical importance is obvious to any one who does bismuth examinations to any extent—with the exception of cases of hour-glass contractions due to ulceration or to spasm, the interior of the stomach, when once canalized by the food, is invariably one undivided cavity. When peristalsis is powerful the waves will often divide the food almost completely, and we can watch this division travel slowly towards the pylorus; but this is no sphincteric action, it is simply peristalsis.

Mr. Gray has not grasped the fact that the empty stomach is a potential space whose walls are in a state of tonic contraction. When hypertonus is present it is only natural that the downward passage of the food, under the action of gravity and with the aid of peristalsis, will be more or less obstructed, and a small mouthful will often remain just below the air shadow for quite a long time. If I recollect aright I demonstrated this to Mr. Gray and then gave a little more food, and we saw the gastric cavity canalized, and, as is perfectly natural according to the laws of physics, the onward progress of the food was again arrested at the lowest point before turning to the right along the pyloric canal, simply because gravity ceased to act, and it was not until a wave of peristalsis

came to its assistance that the food passed round the corner.

On p. 854 Mr. Gray quotes me at length, and what I have just written is merely an attempt to make even more clear what I believe must be obvious to any one. The first paragraph simply refers to the way in which the food is held up in the upper part—that is, just below the cardiac orifice; the second paragraph definitely states that "it frequently happens that at the lowest part of the organ" there is a considerable pause in the progress of the food; while in the third paragraph I am writing of "spasmodic contractions of the middle of the body" of the stomach. Mr. Gray apparently claims all these sites as his "middle sphincter," and I am absolutely at a loss to know where he believes this middle sphincter to be.

At the oft quoted demonstration I endeavoured to show the "normal anatomy of the stomach," although, as I said at the time, I did not happen to have what I considered to be a perfectly normal stomach to show; but surely Mr. Gray knows that a slight increase or decrease in tonic action is of the commonest occurrence, and some of the cases I happened to show him were perfectly normal, except in that they exhibited what I considered to be slightly increased physiological tonic action. Both Professor Elliot Smith and I understood that Mr. Gray had mistaken the pause at the lowest point for the action of a sphincteric band of fibres. Certainly Mr. Gray gave us no indication then that he was going to claim a "middle sphincter" just below the cardiac orifice, in the middle of the body of the stomach as well as at the lowest point—in fact, anywhere from the cardiac orifice to the pylorus. It is a most elusive thing, this "middle sphincter"! The pause I have just described at the upper part and at the lowest part disappears and leaves no indentation as soon as the stomach is canalized by the food and the organ at once becomes one continuous cavity. I certainly thought Mr. Gray had shown us where he placed his middle sphincter—that is, at the lowest part of the stomach—and it was obvious that the simple mechanical explanation of the action of gravity was quite sufficient to account for the delay that occurred in the cases we observed together.

As to the spasmodic contractions that occur in the middle of the body of the stomach and elsewhere, although they occur in what is apparently a perfectly normal stomach, they are by no means normal. They do not always occur at the same point, and they are not seen on the operating table. Although they occur in the normal stomach, they are of very great pathological significance, and are probably reflex. On April 18th I read a paper before the Electro-therapeutic Section of the Royal Society of Medicine, in which I gave a considerable amount of evidence for believing that they are secondary to various toxic agencies, such as bad teeth, constipation, appendix inflammation, etc., but they are not dependent on any specially developed muscular bands, at any rate no trace of them has been found at operation, and when once the cause has been removed these contractions disappear.

It is simply waste of time, ink, and paper to continue correspondence on this subject, for apparently it lends itself to distortion by those who are not familiar with normal appearances. If Mr. Gray could spare an hour or so either here or with Dr. Hertz in London, I am quite certain that, if he could only locate this elusive middle sphincter for us, it would save him the trouble of bringing up the subject again, and of carrying on another lengthy correspondence.—I am, etc.,

Manchester, April 23rd. A. E. BARCLAY.

OWING to the operation of the National Insurance Act, last year threatened to be a period of stress for the Metropolitan Hospital Saturday Fund. In the event, however, the diminution in the total receipts was inconsiderable. The income of the general fund, it is true, diminished by some 5 per cent., but the amounts received in part payment of benefits were higher, so the total for the year reached £45,118, as against £45,468 in 1911. The management expenses were 7.6 per cent. of the gross receipts. The number of benefits provided was 65,267, a considerable increase. But these satisfactory figures cannot be taken as a gauge of the ultimate effect of the Insurance Act on the prosperity of the fund, since the deductions from wages under the Insurance Act and the fall in receipts only commenced in the second half of the year.

Universities and Colleges.

UNIVERSITY OF CAMBRIDGE.

Degrees.

THE following degrees have been conferred:

M.D.—P. Hamill, C. W. Hutt, L. Nicholls, W. B. Wood.
M.C.—G. H. A. C. Berkeley.
M.B.—H. G. Earle, H. M. D. Nicoll.
B.C.—H. M. D. Nicoll.

Examination.

The following candidates have been approved at the examination indicated:

SECOND M.B. *Part II (Pharmacology and General Pathology).*—C. G. Ainsworth, M. L. Atkinson, J. Aydon, J. V. Bates, P. R. Boswell, C. C. Brewis, W. H. W. Cheyne, V. M. Coates, A. O. Courtis, C. S. Dodson, B. C. Ewens, B. J. L. Fayle, C. Gardiner-Hill, W. T. Hare, R. Hargreaves, C. B. Hawthorne, L. G. Jacob, A. H. Little, C. F. Mayne, G. C. Metcalfe, H. S. Miles, B. Mountain, E. C. W. Starling, P. Wallice, E. Watson Williams, W. L. Willett, A. G. P. Wills.

UNIVERSITY OF MANCHESTER.

Ashby Memorial Scholarship.

THE committee of the Ashby Memorial Scholarship has decided, instead of selecting a subject for research this year, that candidates on applying for the scholarship shall propose their own subjects. The scholarship was founded for the promotion of the study of the diseases of children, and the research proposed must be in this subject. The award of the scholarship will be made early in July. Applications may be sent to the Registrar on or before June 30th. The announcement of an award previously made was due to an oversight as regards the regulations as to dates.

Examinations.

Owing to the early date of Whitsuntide the examinations for entrance scholarships and exhibitions will begin on May 19th next, and be continued on succeeding days.

UNIVERSITY OF SHEFFIELD.

THE Council has appointed Mr. F. G. Mordaunt, L.D.S., to the post of Lecturer in Dental Surgery and Pathology, in succession to the late Mr. Frank Harrison.

ROYAL COLLEGE OF PHYSICIANS OF LONDON.

A COMITIA was held on April 24th, Sir Thomas Barlow, Bart., K.C.V.O., President, being in the chair.

Admission of Members.

The following gentlemen, having passed the required examination, were admitted as Members of the College:

James Leatham Birley, M.B.Oxford, L.R.C.P.; Joseph le Fleming Coy Burrow, M.B.Edin.; Gordon Ley, F.R.C.S., L.R.C.P.; Gustave Jean Philippe Monod, M.D.Paris; Charles Sheard, M.B. Toronto, L.R.C.P.; Stanley Wyard, M.D.Lond.

Licences to Practise.

Licences to practise physic were granted to 83 gentlemen who had passed the necessary examinations.

Election of Fellows.

The following Members, nominated by the Council, were elected to the Fellowship:

John Oglethorpe Wakelin Barratt, M.D.Lond. (Liverpool); Edward Stainer, M.D.Oxford (London); Henry Russell Andrewes, M.D. Lond. (London); Francis Hugo Thiele, M.D.Lond. (London); William Philip Sutcliffe Branson, M.D.Camb. (London); Walter Henry Maxwell Telling, M.D.Lond. (Leeds); Ernest Edward Glynn, M.D.Camb. (Liverpool); Thomas Grainger Stewart, M.D.Edin. (London); John Brian Christopherson, M.D.Camb. (Khartoum, Egypt); Alexander George Gibson, M.D.Oxon. (Oxford); Frederick Samuel Langmead, M.D.Lond. (London); Henry Roy Dean, M.D.Oxon. (Sheffield); Thomas Lewis, M.D. Lond. (London); Maurice Alan Cassidy, M.D.Camb. (London); Charles Wilberforce Daniels, M.B.Camb. (London); James Mackenzie, M.D.Edin. (London).

Under By-law LXXI (*b*), which authorizes the Council to nominate registered medical practitioners who, not being members of the College, have in its opinion distinguished themselves in any branch of the science or practice of medicine:

Charles James Martin, M.B.Lond., F.R.S., Lister Institute, Chelsea, S.W.

Communications.

The following communications were received: (1) From the Secretary of the Royal College of Surgeons of England, reporting proceedings of the Council of the College on April 10th, 1913. (2) From Miss Ellen L. Wilks, asking leave to have a carbon print made of the portrait of the late Sir Samuel Wilks, Bart., which he left to the College. (3) From Mr. D'Arcy Power, asking leave, on behalf of the Section of History of Medicine of the Royal Society of Medicine, to photograph certain portraits of Harvey. Leave was granted in both instances.

Alteration in Regulations.

An alteration was made in the regulation appended to By-law CXVII whereby candidates for the membership should

be allowed three instead of four hours for each of the written parts of the examination.

Representative on the Senate of the University of London.

Dr. S. J. Sharkey was re-elected the representative of the College upon the Senate of the University of London.

Reports.

A report was received from Dr. A. E. Garrod concerning the Fourth International Congress of Physio-Therapeutics recently held in Berlin.

A report was received and adopted from the Committee of Management, dated March 4th, 1913, recommending that Blundell's School, Tiverton; Elizabeth College, Guernsey, and Boys' Grammar School, Watford, should be added to the list of institutions recognized by the Examining Board in England for instruction in Chemistry and Physics.

After some further formal business the President dissolved the Comitia.

SOCIETY OF THE APOTHECARIES OF LONDON.

THE following candidates have been approved at the examinations indicated:

SURGERY.—*†J. T. E. Evans, *†G. Fildes, *†H. C. C. Hackney, *†R. Jones, *†A. J. V. Matthews, R. A. Robinson, *†H. P. Shackleton, *†R. L. M. Wallis, *†S. Zarchi.

MEDICINE.—*†J. T. E. Evans, *†G. Fildes, *†H. C. C. Hackney, *G. R. Lynch, *†H. P. Shackleton, *†R. L. M. Wallis.

FORENSIC MEDICINE.—G. Fildes, D. Havard, H. P. Shackleton, R. L. M. Wallis.

MIDWIFERY.—H. P. Shackleton, R. L. M. Wallis, A. H. Willson.

*Section I. †Section II.

The Diploma of the Society has been granted to Messrs. J. T. E. Evans, H. C. C. Hackney, R. Jones, G. R. Lynch, A. J. V. Matthews, R. A. Robinson, H. P. Shackleton, R. L. M. Wallis, and S. Zarchi.

Medico-Legal.

GUARDIANS AND PROFESSIONAL FEES.

AT the Granard (Longford) Quarter Sessions Dr. F. C. Yorke was granted a decree for £2 2s. and £1 1s. expenses against the Granard Board of Guardians. Dr. Yorke was appointed to take the place of the workhouse doctor when he was called away on a Crown summons. The guardians submitted that, as Dr. Yorke was only employed for one day, a guinea was a reasonable fee. The Judge said he considered £2 2s. a reasonable fee.

A nurse sued the Ballymahon Board of Guardians to recover 12s. A car was sent to meet her by the guardians at a train, but she was detained by the hospital authorities in Dublin in removing a patient, and did not get home until a later train. She was obliged to hire a car at Mullingar, and the 12s. that she paid for it the guardians disputed, as the nurse had specific instructions as to the train by which she should return. The Judge gave a decree for the amount, remarking that "it was a miserable case and a mean defence."

CONSUMPTIVE LODGER.

AN interesting case was tried recently at the Monaghan Quarter Sessions. A boarding house keeper sued the executor of the will of a deceased man to recover £25 damages for injuries committed by the deceased when residing as a lodger in her house in June, 1912, for that he infected the house and furniture with a contagious disease. From the evidence it appeared that when the deceased and a friend came to the house to look for lodgings the plaintiff asked if he was suffering from consumption, and his friend assured her that it was congestion of the lungs, and on that assurance she took him in. A few mornings later he had a severe haemorrhage and soiled the bed clothes, carpet, and wall paper with blood. The doctor would not allow him to leave for six weeks, and some other lodgers left the house, and the plaintiff could not get the house filled for the rest of the season.

The Judge quoted a number of decided cases, showing that a person who, knowing that he is suffering from an infectious disease, succeeds in gaining admission as a lodger to the house of another person, either by falsely representing that he is not suffering from an infectious disease or by warranting that he is not suffering from some particular infectious disease, renders himself liable in damages, the amount depending upon the actual loss which reasonably followed upon the false representation or breach of warranty. These cases were all concerned with diseases such as small-pox, scarlatina, or measles, that is, diseases included in the various Notification of Infectious Diseases Acts. Under regulations of the English Local Government Board, pulmonary tuberculosis was declared to be an infectious and notifiable disease, and it was likewise notifiable under certain local Acts. The Judge pointed out that it would be very inconvenient from a public point of view if it was established in the courts that the principles applicable to small-pox and the like were to apply without restriction and qualification to consumption. The plaintiff in this case had got an assurance that the lodger was not suffering from consumption, and on that assurance let the rooms to him, and she was therefore entitled to a decree for the amount of her loss through the disinfection of the room and the destruction of some of the articles and for the loss on lettings. A decree was therefore given for £16 4s. 2d.

Obituary.

WILLIAM HUNTLY, M.A., B.Sc., M.D.GLASG., AGRA.

WILLIAM HUNTLY was born on December 1st, 1859, and was educated at Hutcheson's Grammar School and the High School of Glasgow. He then passed to the university of that city, and graduated M.A. there in 1880; he had one session at the United Presbyterian Divinity Hall (1880–1), and then turned to medicine and science, graduating B.Sc. and M.B., C.M. at Glasgow in 1885. His desire was to be a medical missionary, and he was far-sighted enough to recognize that such a calling would best be answered by gaining the most thorough knowledge possible of medicine and science; so he went through the arts, science, and medical curriculums, and put the copestone on the edifice of his training in 1889 when he graduated M.D. in Glasgow. He had already volunteered for service in India, and had been accepted by the United Presbyterian Church of Scotland for its medical mission work in Rajputana. To take up this work he sailed on October 30th, 1886. He had periods of service at Beawar, Nasirabad, Jodhpore, and Kotah in succession, and finally spent a year at Bundi, in the very centre of the famine-stricken districts of India. In this way fifteen years were spent. Then Dr. Huntly's health broke down, and in 1901 he had to return to Scotland to recruit. One who knew Dr. Huntly well has explained his great success by a reference to five characteristics which he possessed in particular—namely, his medical skill, his versatility, his accessibility, his evangelical earnestness, and his unselfishness. Added to these was his extraordinary sympathy with the natives of India; in their society he was most at home, and was perhaps seen at his best.

But Dr. Huntly's career in India was not yet finished. His health was so much restored that when Dr. Colin Valentine of Agra died, the thoughts of the directors of the Edinburgh Medical Missionary Society turned at once to Dr. Huntly as the most likely man to take his place as head of their Medical Missionary Training Institution in North India. So to Agra, in 1902, Dr. Huntly went, and there he laboured till his death from pneumonia on April 11th. As superintendent of the Agra Institution he was brought into close contact with the native Christian youths training to become hospital assistants, and upon them for some ten or eleven years he lavished all the sympathy of his nature, and gave them freely of the professional knowledge with which he was so well furnished. During recent years the number of students passing through the institute was somewhat diminished, a circumstance which occasioned Dr. Huntly a great deal of anxiety. It was to the action of the Government of India in requiring the standard of examination to be raised, and the consequent difficulty of finding among the comparatively limited numbers of the Christian natives of India sufficient young men who attained to that standard. It was a matter which would of course right itself in time with the raising of the school training, but it hampered Dr. Huntly's work to some extent in the past few years. It had this advantage, perhaps, that it made it possible for him to lend a helping hand to many other worthy causes in North India, and in giving such help he spared not himself.

Dr. Huntly leaves a widow and four children, two sons and two daughters. One of his daughters is married to a medical missionary in South India, Dr. Bulloch of Neyoor.

HUGH BEGBIE WILMOT, M.R.C.S.ENG., L.R.C.P.LOND., EDMONTON.

DR. H. B. WILMOT, who died on April 23rd, was educated at St. Mark's School, Windsor, and King's College Hospital. Soon after obtaining his diplomas in 1894 he joined Dr. J. H. Swanton at Edmonton, and on the latter's retirement to take up gynaecological work Dr. Wilmot succeeded to the practice, which has been carried on from the same house for more than a century. This house was the doctor's house when Edmonton was a country village of a few hundred inhabitants, and John Keats, the poet, was apprenticed to Dr. Harding, such

being the method of entering the medical profession in those days.

During his eighteen years of practice Dr. Wilmot witnessed the very rapid growth and development of Edmonton into a London suburb of over 67,000 inhabitants. His health, never robust, had been failing since a severe illness two years ago, but he remained at work, devoted to his patients, until a fortnight before his death.

The parish church of All Saints was the scene of his funeral service three days later, when the old building in whose churchyard the bodies of Charles and Mary Lamb repose, was full of Dr. Wilmot's patients, old and young, rich and poor, who thereby testified to their high esteem of his professional skill and sterling character. His professional brethren attended in large numbers, and a handsome floral memorial from the Edmonton Medical Society expressed their great regret at the early close of a useful life, and their deep sympathy with Mrs. Wilmot and her little daughter.

S. C. L.

WE regret to record the death of Dr. WILLIAM MICHAEL WILLIAMS at his residence, Penmachno, on April 20th, at the age of 56. He was born at Pwllheli in South Carnarvonshire, and received his medical education at the University of Glasgow, where he graduated M.B. and C.M. with commendation in 1881. He had held the appointment of medical officer of the Penmachno and Pentrevoelas District of the Llanrwst Union for twenty-eight years, and at the time of his death was the senior medical officer of the union. He was surgeon to the Penmachno Slate Quarries and certifying factory surgeon for the district. Dr. Williams also took an active part in public life; for several years he was a member of the Carnarvonshire County Council, and only retired in March last owing to ill health. For the last nineteen years he had been chairman of the parish council, and although he desired to retire from that position this year the parishioners would not allow him and unanimously re-elected him. He was a regular attendant at the meetings of the North Wales Branch, and in 1908 filled the presidential chair with great credit. For the theme of his address he took the treatment of pneumonia, and it will be long remembered by those who listened to him, embodying as it did the fruits of his keen observation and sound judgement. Although resident in a somewhat remote part of the country amongst the Welsh hills, he never allowed his mind to rust, but kept himself thoroughly abreast of the times, as evidenced by his contributions to and the part he took in the debates of the Branch. Dr. Williams had a very extensive practice, and was a most conscientious practitioner. He had an exceedingly kind nature, and by his death the district sustains a great loss, especially the poor, to whom he was always considerate. He had been in failing health for several years, but he fought bravely to the end. On April 23rd he was buried at Denio Cemetery, Pwllheli, his native town. He leaves a widow and two daughters to mourn his loss.

DR. SYDNEY WILLIAM CHEETHAM, of Forest Gate, E., met his death on April 27th, at the age of 49, in tragic circumstances. He had ridden his tricycle to visit a patient, and narrowly escaped disaster from a passing motor bus. Pushing on, he attended to his patient, and then immediately succumbed to an attack of heart failure, while still in the patient's house. Dr. Cheetham was educated at University College, Liverpool, and subsequently held the posts of Assistant Demonstrator of Anatomy and of Physiology there. After obtaining the diplomas of M.R.C.S. and L.R.C.P. in 1889, he was appointed Acting Senior House-Surgeon at Bootle Hospital. He had been established in Forest Gate for many years, and his professional skill, genial manner, and commanding presence had secured him the affectionate regard of his patients. To the care of an extensive practice Dr. Cheetham had recently added the responsible position of being one of the too few medical members of the West Ham Insurance Committee, a post which he accepted at the request of the West Ham Town Council. He was a frequent attendant at medical meetings, and his medical neighbours looked forward to the time when his cautious criticisms and his shrewd Mancunian common sense would be heard yet more often at their councils and committees. Dr. Cheetham leaves a widow and two children, to whom all sympathy is extended in their sudden and tragic loss; yet the man is to be envied who, when the inevitable occurs, is found at the post of duty.

DR. FRITZ GUSTAV VON BRAMANN, Professor of Surgery in the University of Halle, died on April 26th, aged 58. He was born at Wilhelmsberg, in East Prussia, on September 25th, 1854, and studied medicine at Königsberg. In 1884 he was appointed assistant in von Bergmann's clinic at Berlin, and qualified as Privatdocent in 1888. In 1890 he was called to the chair of surgery at Halle, and was appointed director of the surgical clinic of that university. The name of Professor von Bramann was probably best known to the world at large from the fact that he performed tracheotomy on the late Emperor Frederick at San Remo. In this way he became involved in the violent controversies which raged round the deathbed and over the grave of that monarch. The memory of these painful events need not be revived. Professor von Bramann continued to enjoy the confidence and esteem of the present Kaiser, who is said to have sent him a telegram of hearty appreciation on the twenty-fifth anniversary of the operation, which was performed in February, 1888. The deceased professor was the author of writings on dermoids of the nose, the treatment of wounds with iodoform compresses, arterio-venous aneurysm, and other surgical subjects.

MUCH regret has been caused by the death of Dr. JAMES ROWAN, of Ballyward, co. Down, who was for many years the medical officer of the Ballyward Dispensary District. He was the son of Dr. Nathaniel Words Rowan, of Ballyward, and was born in 1838. After receiving his diplomas in 1860, he spent the first eight years of his professional life in Bambridge, and in 1868 he succeeded his father as medical officer in Ballyward. On retiring from active duty in 1910 he was presented with a purse of sovereigns and an address.

THE number of British medical practitioners in the French Riviera, which has for some years been a diminishing quantity, has been further reduced by the death of Dr. CHARLES EDWARD CORMACK of Hyères and Vichy. He was a son of the John Rose Cormack who was for some years entrusted with the fortunes both of the British Medical Association and its JOURNAL, fulfilling as he did simultaneously the office of secretary of the one and editor of the other. At the beginning of this period John Rose Cormack had not long come south from Edinburgh, and it was at Putney, where his father was then living, that Charles Edward Cormack, his second son, was born in 1851. In the early Sixties the family moved to France, where John Rose Cormack, after performing great services during the siege of Paris, became physician to the Embassy, and was subsequently knighted. It was in France, therefore, that Charles Edward Cormack received the greater part of his education. It was in France, too, that he passed practically all his professional life. For over thirty years he was a well-known personage at Vichy, where he practised during the summer, and for a somewhat shorter period he had been equally well known in the south of France. In regard to Vichy he published in 1887 an interesting handbook, which included a detailed description of its waters and notes on diseases in which its use is indicated, together with a large amount of miscellaneous information concerning the locality and its surroundings. At Hyères he began to practise a few years later, room for his services there being created partly by its growth in favour as a winter resort, partly by the failing health of the late Dr. G. Griffith. It was at his residence, the Villa Marie Thérèse, in the latter town that he died in February. Dr. Cormack, who maintained his membership of the British Medical Association up to the time of his death, was married, and is survived by his wife.

DEATHS IN THE PROFESSION ABROAD.—Among the members of the medical profession in foreign countries who have recently died are: Dr. James A. Egan, for many

years Secretary of the Illinois State Board of Health and an earnest worker in the cause of higher medical education and of effective State regulation of medical practice; Dr. J. G. Egger, of Landshut, well known by his work in the province of geology and palaeontology, aged 89; Dr. Gagnon, Emeritus Professor of Surgical Pathology in the Medical School of Clermont-Ferrand; Dr. Amie Henri, Professor of Medical Physics in the Medical School of Rheims; Dr. George McClellan, surgeon to the Howard Hospital, the General Hospital, and St. Joseph's Hospital, Philadelphia, author of a work entitled *Regional Anatomy*, which went through six editions and was translated into French, aged 63; and Dr. E. Angus Stewart, Assistant Professor of Pathology in the College of Physicians and Surgeons, New York, and formerly Assistant Professor of Pathological Anatomy in the Johns Hopkins Medical School, author of contributions to the study of blood pressure and conditions of the heart, and of researches on the adrenal bodies, aged 30.

Medical News.

THE Board of Trade has issued an Order rendering obligatory on all persons who employ labour in the ready-made and wholesale bespoke tailoring trade in Great Britain, and make garments for male persons, the minimum time-rates of wages fixed by the Board last August.

AT a meeting of the Royal Sanitary Institute, 90, Buckingham Palace Road, S.W., on May 20th, at 7.30 p.m., the Chairman of the Metropolitan Water Board, Mr. E. B. Barnard, will give an address on London's water supply, and on the following day a visit will be made to the King George's Reservoir at Chingford.

THE Henry Phipps Psychiatric Clinic of Johns Hopkins Hospital, Baltimore, for the treatment of mental disorders was formally opened on April 16th. An address on specialism in general hospitals was delivered by Sir William Osler.

THE proposal to establish in Glasgow, as a memorial to King Edward VII, an institute of preventive medicine primarily intended for research and the dissemination of knowledge in relation to tuberculosis has been abandoned on the ground that the work proposed to be done will now be undertaken through the operations of the scheme recommended by the Astor Committee (BRITISH MEDICAL JOURNAL, March 15th, p. 567).

THE first of three lectures on recent physiological inquiries to be given by Professor Stirling of Manchester at the Royal Institution, Albemarle Street, W., was delivered on April 29th, and dealt with motion and locomotion. The second will be given on May 6th, and will deal with equilibration and the sixth sense, and the third on May 13th, when the subject will be ductless glands. The lectures are illustrated by the cinematograph and epidiascope, and by experiments.

A WELL illustrated booklet, recently issued by the Highland Railway Company, and obtainable upon application, bears the title, *Strathpeffer Spa Medical Guide*, and has for authors four medical men resident in the locality. Each of these is responsible for one section of the book. Dr. H. W. Kaye deals briefly with the position and use of health resorts; Dr. E. H. Duncan gives a detailed account of the waters of Strathpeffer and the various ways in which they are used; Dr. W. Bruce discusses medical treatment at the same spa; and Dr. J. Pender Smith, supplementary treatment by electricity.

A SERIES of academic courses for foreigners will be held in Hamburg from July 24th to August 6th. The subjects range from pedagogy to natural science and clinical medicine, and sixty-five professors from various German universities and institutes will take part. There will also be a practical course in the German language commencing on June 16th to July 26th, and during this period there will be a clinical course at the Eppendorf Hospital, and a series of lectures by L. Brauer on diseases of the heart and lungs. Further particulars can be obtained from Geschäftsstelle der Akademischen Ferienkurse, Hamburg 20, Martinistrasse 52.

To the physical and moral advantages resulting from the Seaside Camps for London Working Boys allusion has been made in these columns on several occasions. Their objects and the means adopted for their attainment are well described in the twenty-fourth annual report issued by the committee responsible for the upkeep of these camps, whose occupants are mainly youths belonging to the London Diocesan Church Lads' Brigade. Last year's work seems to have ended with a rather heavy balance on the wrong side, so subscriptions of any amount will no doubt greatly be welcomed by the secretary, Mr. F. Abel Bloxam, 22, Northumberland Avenue, W.C.

The usual monthly meeting of the executive committee of the Medical Sickness, Annuity and Life Assurance Society was held at 429, Strand, London, W.C., on April 18th, 1913, when Dr. F. J. Allan was in the chair. The claim account for the quarter ending March 31st was presented, and it was shown that, owing to the epidemic of influenza, the society had had to pay out heavy sums but the numbers were already decreasing. The new business had been well up to the average, and the appeal made by the chairman at the annual meeting to members to use their best efforts in making the advantages of the society known was stimulating enquiries. The main feature of the society is the weekly payment during sickness, for, as members often point out, when laid aside by illness their expenses run on just the same, and in fact are increased owing to locumtenent and other expenses. The society may justly claim to have experienced a unique record, in that during twenty-nine years it has paid over £200,000 in sickness and accident pay, and no claim has ever had to go to arbitration. Prospectuses and all information to be obtained from Mr. Bertram Sutton, Secretary, Medical Sickness and Accident Society, 33, Chancery Lane, W.C.

THE sixth annual Nursing and Midwifery Conference and Exhibition was held at the Royal Horticultural Hall, Westminster, from April 22nd to April 25th, and was attended by large numbers of nurses and midwives. A variety of interesting novelties were on view at the different stalls, including such useful articles as an invalid chair specially designed for wheeling up and down stairs without jolting the patient or fatiguing his attendants, a "running table" that can easily be moved by a person lying in bed, and a baby's feeding bottle in which the usual indiarubber attachments are replaced by a glass valve adjusted in such a fashion that it can neither leak, drop out, nor become clogged with milk. One of the most attractive stalls was that of *The Nursing Mirror*, whose doll-dressing competition had resulted in an amusing collection of dolls dressed in the uniforms of sisters and nurses at most of the principal hospitals in the kingdom; whilst the Women's Imperial Health Association was responsible for a stand containing model sets of cheap clothing for children. Another centre of interest was the stall belonging to the Royal National Pension Fund for Nurses, in connexion with which a Nurses' Insurance Society has recently been formed, where full particulars concerning the insurance of nurses under the National Insurance Act could be obtained. An interesting series of lectures on the different branches of nursing and midwifery was given daily during the course of the exhibition at the London County Council Technical Institute adjoining the hall.

PROFESSOR JOHN EDGAR, Professor of Education at the University of St. Andrews, has recently said that eugenics is a science, a matter of the head, whilst patriotism is enthusiasm, a matter of the heart, which in the hour of one's country's danger bursts into a mighty fire and becomes one of the greatest forces of the world. The spread of eugenics, in creating a new social atmosphere, would develop a new and benign spirit of patriotism. The eugenist wanted not merely healthy, moral, and stronger animals, but better citizens, with all the variety that citizenship implied; and only through good nature and good nurture could the highest results be obtained. If it were true that the wealth of a country was efficient men, that its health lay in healthy men, and its glory in intelligent men, then there was a danger in Britain of an enemy steadily marching to threaten us with ruin. Whilst the number of marriages had increased the number of births had decreased; it was not the decrease alone which gave cause for anxiety, but the fact that the number of births tended to decrease disproportionately amongst the educated and most successful sections of the population. In an investigation made in his own neighbourhood amongst such classes, Professor Edgar said that he had found the average number of children per family to be a small fraction over one; yet consumptive families in England had an average of five children. During the last half of the nineteenth century the responsibility of maintaining the birth-rate had been shifted from the middle classes to the weak and the poor; and it was among the mass who were struggling for bare existence that fertility was maintained. The new spirit needed was, after all, the old patriotism of Spartan men and women translated to modern conditions. We no longer thought of eliminating the weak, but we

called science to our aid in eliminating the weakness. Eugenics was pointing the way of escape from a national peril.

THE present-day worker in London probably knows a good deal less about the Mother City than his predecessor. The latter commonly lived within the actual confines of the metropolis, not infrequently walked to his work, and had not adopted the week-end habit; while the London worker of to-day is swished into town in a tube or on an enclosed tramway car in the morning, and swished out again in the evening, and in the interval usually confines his peregrinations to a very limited area. Rare indeed is the man who spends his spare time, his Sunday and Saturday afternoons, in wandering about London, in exploration on foot of its back streets and nooks and corners. Though he alone, perhaps, can thoroughly appreciate the vigilance of the Metropolitan Public Gardens Association, yet no habitual visitor in London can remain unaware of the growth of its open spaces and of the speed at which these tend to be converted into gardens, and all alike have reason to be thankful for these green oases in a land of bricks. Hence it should be remembered that their origin is by no means spontaneous. Each represents a victory in a probably prolonged fight on behalf of the interests of the general public against those of some corporation or individual. Even for a person who pays attention to the matter it is not always easy to discover to whom gratitude in any particular instance is due; commonly it is given to the London County Council or some equivalent body. Almost invariably, however, it is the Metropolitan Public Gardens Association which should also be remembered. There are few pies of this order in which it does not have a finger, but so soon as it has played its part by agitating, or otherwise helping to secure the retention of an open space, and its decoration by trees or enclosure as a garden, it retires from the scene in favour of the body which undertakes the responsibility for future maintenance. Hence we commend to the perusal of Londoners the annual report of this body, which shows what the association has effected during the previous twelve months, in what directions it has failed, and what projects it still has in hand. Such perusal is by no means unlikely to result in at least an impetus towards becoming a subscriber to the association's funds. Its head quarters are at 83, Lancaster Gate, the residence of the Earl of Meath, who for many years past has been both its chairman and its honorary treasurer.

A REPORT of the annual meeting of the After-care Association, formed in 1879 with the object of facilitating the readmission into ordinary social life of poor persons discharged recovered from asylums for the insane appeared in our issue of March 8th, p. 513. The report for 1912, now issued, sets forth the class of cases dealt with, and states that 391 applications for aid were received, though it fails to tell us how many of these were actually assisted. Subscriptions, donations (including offertories), legacies, and dividends on investments reached a total of £1,998 12s. 3d. during 1912; legacies amounted to £550 11s. 7d., and it is remarked that "although the income has increased, it is almost entirely owing to the receipt of legacies, and the result of the Model Market and Cafe Chantant kindly held by the Guild of Help in October," so that additional subscriptions are still wanted. Investments amount to £4,382 1s. 9d., and the actual expenditure during 1912 was £1,006 12s. 9d., including £48 14s. from a special advertising fund established in 1911 by the generosity of Mr. H. D. Greene, K.C. Salaries amounted to £264 8s., equivalent to about 26 per cent. of the total expenditure, which seems a moderate proportion considering the essentially personal character of the aid given. Of the value of the work carried on by the association and its officers there can be no doubt, and the personal services rendered call for much tactful discrimination. Some striking instances of cases assisted during 1912 are appended to the report, showing how suitable situations have been found in numerous cases; how clothes, artificial teeth, tools, and instruments have been supplied to those needing them to obtain employment, and how board, change of air and medical comforts have been provided in appropriate cases. The multifarious operations of the society meet the varied needs of a most pitiable class, helping those who by reason of their recent affliction have been cut off from the usual sources of employment, and giving them a fresh chance to make their way in the work-a-day world. By such means relapse is often prevented, and the work of the association is in many cases an essential supplement to that of the mental hospital. The offices of the Association are at Church House, Dean's Yard, Westminster, and further information will be furnished by the Secretary, Mr. H. Thornhill Roxby.

Letters, Notes, and Answers.

AUTHORS desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate with the Office, 429, Strand, W.C., on receipt of proof.

☞ *Queries, answers, and communications relating to subjects to which special departments of the* BRITISH MEDICAL JOURNAL *are devoted will be found under their respective headings.*

QUERIES.

ALPHA wishes to hear of any experience in erecting a surgery and waiting-room of semi-permanent or so-called temporary materials, and the cost.

C. J. S. D. asks for advice in the treatment of a lad, aged 19, who has suffered from nocturnal incontinence following an attack of measles at the age of 3. He has been treated for some months by the usual drugs, including belladonna and chloral, without improvement.

SUSSEX asks how to remove stains produced by scarlet-red and amido-azo toluol.

*** The stains can be dissolved from linen or similar fabric with chloroform, but we are not aware of any means of removing them from the skin; apparently, from inquiries, no such means is known.

A CASE FOR DIAGNOSIS.

DR. FRANK ELVEY (Fouriesburg, South Africa) invites suggestions as to the diagnosis and treatment of a case which may be summarized as follows. The patient was born with a birth-mark extending from the right foot to the knee, and then up the front of the thigh to the right lower half of the abdomen, the right labium being much thickened. The right leg was distinctly larger than the left, and behind the knee was a circumscribed tumour covered by normal skin. Within a few days this tumour materially increased in size, the skin becoming adherent, while an ill-defined lumpy thickening appeared at the back of the upper third of the thigh; the leg was also swollen. At age 2 months a painful abscess-like swelling appeared on the inner side of the thigh, and from this about an ounce of thickened dark blood was removed. At age 5 months (that is, at the date of the report) the child was fat, well grown and healthy in itself, but its right leg had a circumference four times that of the left; the foot was almost shapeless and the skin over its dorsum shiny and thinned. The right thigh was also swollen, though not as much as the leg. The abdomen was large but symmetrical, and traversed by prominent veins about the epigastrium; its subcutaneous tissue beyond the limit of the birth-mark and up to the chest was irregularly thickened. The parents stated that about a month previously the child had an attack of pain, after which the swelling of the limb subsided, but subsequently returned. As conditions difficult to reconcile with one another, Dr. Elvey points to the absence of enlarged glands, the healthiness of the child as distinct from the local condition, the evacuation of blood and the lack of precise correspondence between the naevoid area and the subcutaneous infiltration. Would a trial of Coley's fluid, he asks, be warranted?

ANSWERS.

CORONERS' INQUESTS.

M.—A coroner is empowered by statute to order an analysis to be made of the stomach and its contents at any period between the issue of his warrant and the termination of the inquest, and the jury has no power to object. On the other hand, by Section 21 of the Coroners Act of 1887 the jury is empowered to call upon the coroner to order a *post mortem* examination or an analysis to be made if it is of opinion that the cause of death has not been satisfactorily determined from the evidence given at the inquest. Thus a jury, while unable to object to an analysis, can insist upon one being made. It would, we conceive, be the duty of a medical practitioner finding poison in the organs of a deceased person to communicate the fact to the coroner in any circumstances.

LETTERS, NOTES, ETC.

PRACTICE IN NEW ZEALAND.

M.B., C.M., F.R.C.S.EDIN., sends a word of warning with regard to the risk of British practitioners going to New Zealand to practise. He states that the population of New Zealand is only a little over 1,000,000, and of these 100,000 belong to friendly societies, who pay the lodge doctor on an average 15s. to 18s. for attendance on a man, wife, and family, and he adds that abuse is rife. He considers that, as there are 130 medical students studying in Dunedin and many New Zealanders are studying in Great Britain, the local output is sufficient or more than sufficient to meet the demands. He states that in some cases bush townships offer a guarantee of £200 or £300 a year, but that many who have accepted such conditions find that the net result is not satisfactory.

SHALL WE DRINK?

DR. JOHN HADDON (Hawick) writes: Reflecting on the lesson my dog has taught me as to drinking water, even when fasting, some facts are recalled to mind which seem worthy of note. An old gentleman of my acquaintance told me that a horse properly fed would hardly taste water, and at grass they never drink. An old lady of my acquaintance, who lived to 89, used to say she never ate more than she could "*drack*"—that is, than she could make moist enough with saliva to swallow—and I never saw water on her table. I have always known that dogs fed on animal food drink much, but not at all when animal food is withheld, and I had noticed that it was when horses had had too much food, or had been perspiring much, that they drank most water. The whole question of food and drink is deserving of further study in regard to disease, and it would be well if our research scholars would pay attention to the subject.

ARSENIC IN MALARIAL CACHEXIA.

MR. J. G. BERNE, L.R.C.P. and S.Irel., late Captain R.A.M.C., has forwarded us, with the permission of the Medical Superintendent of the Elder Dempster B.W.A.S.N. Company, some notes of a case of chronic malarial fever under his charge on board ship for upwards of two months. The infection dated back ten years, and the patient, who had habitually dosed himself freely with quinine and was very cachectic, had very marked anaemia and an enlarged spleen. His condition was at one time serious, but by the time he left the ship all grave symptoms had disappeared, and he was quite "fit." The chief treatment was the regular administration of liquor arsenicalis, quinine being given only when the temperatnre ran high. In the writer's opinion quinine is somewhat abused, laymen talking about taking it as if it were a food. He considers that in debility caused by malarial fever a combination of iron and arsenic is the sheet anchor, and that quinine should only be given when the fever persists beyond two days. He thinks the best hepatic stimulant in these cases is calomel.

TARAXICUM IN PARTIAL INTESTINAL OBSTRUCTION.

DR. JOHN BAIN (South Shields) writes: Last autumn two letters appeared in the JOURNAL regarding the beneficial effect of taraxicum when administered in cases of gradually increasing obstruction of the bowels, the obstruction being most probably of a malignant nature. The following case completely bears out all that was claimed for the treatment: Three months ago I was called to see Mrs. C., aged 58, who at that time was suffering from vomiting, flatulent dyspepsia, and increasing difficulty in getting the bowels to move. She was very much wasted, and had the sallow, yellowish tint of skin often associated with advanced malignant disease. The abdomen was distended and tympanitic, and on placing the hand on it peristalsis was very distinctly felt. Palpation did not, however, reveal any hard mass, and rectal examination failed to indicate any departure from the normal in the lower bowel. As the patient absolutely refused to entertain the idea of going into hospital, I was compelled to do my best for her at home. My efforts to relieve the vomiting and flatulence with sedatives and antiseptics were of no avail, and the only thing that gave her any relief was morphine in full doses. This, of course, increased the constipation, which was only very partially relieved by copious enemata. It was at this time that I remembered having read in the JOURNAL of taraxicum being used in similar cases, and decided to put the patient upon the drug. For the first week there was little improvement, except that the vomiting and dyspepsia were not so persistent. After this, however, matters began to go on much more smoothly. Slowly, but surely, all urgent symptoms began to disappear, and in three weeks from the commencement of treatment the patient stated that she felt like a new woman. The stomach symptoms were entirely gone, being replaced by a good, healthy appetite, which enabled her to do justice to every meal, while the bowels moved freely and naturally every morning. The only symptom that still troubled her was pain in the lower abdomen after defaecation, but this also is clearing up. To me, the most striking alteration in the patient was the look of returning health on her face; the sallow, cachectic tinge of the skin was gone, and the expression was no longer that of a person in continual pain. How long the woman will continue to enjoy her present state of health cannot, of course, be said, but there cannot be the slightest doubt that the administration of taraxicum was the first thing that relieved her symptoms and paved the way to an apparent return of good general health.

EMETINE IN PLACE OF IPECACUANHA.

BIBLIOPHILE writes: In view of the recent revival of iodine and certain other drugs, after many years of neglect, the following may be of interest, as showing that the proposed substitution of emetine for ipecacuanha may be included amongst these revivals. Volume xi of the *Annals of Philosophy* (Baldwin, Cradock, and Joy, 47, Paternoster Row, 1818) contains abstracts from a paper entitled "Chemical and Physiological Researches on Ipecacuanha," by Magendie and Pelletier, read before the Royal Academy of Sciences in February, 1817. The following constitutes one of the authors' conclusions: "Emetine may be substituted for ipecacuanha in all cases where we employ this medicine, and with the more advantage, as this substance in a determined dose has always constant properties, which is not the case with the different species of ipecacuanha that are met with in commerce, and it has also the further advantage of having very little taste and scarcely any odour."

IS TUBERCULIN A FAILURE?

M.D. writes: I think that we must come to the conclusion that any remedy which has not been found to be frequently successful in the hands of the general practitioner, even when the latter has made a special study of the treatment of tuberculosis of the lungs by tuberculin, in the best clinics in Europe, is, at any rate, a comparative failure. Even if we grant that there are a few experts who have had good results in afebrile and selected cases of phthisis, it is quite open to argue that those cases were cured in spite of the tuberculin treatment, and that they would have been better without it. I have before me the details of the treatment by tuberculin of a young and healthy physician in whom the diagnosis was made in the very early stage of the disease, and who had the treatment at the best known sanatoriums—yet the result was fatal. The production of an artificial pneumothorax has given no better results. May I suggest the following experiment on animals having well-marked tuberculous foci in the lungs, namely, the production of pneumonia by the injection into the lungs at the site of the tuberculous lesion of a culture of the *Diplococcus pneumoniae*, made from a strain which has partially lost its virulence. A large number of experiments of a similar kind may lead to some definite result in producing an inflammatory condition in the lungs which will destroy the *B. tuberculosis*, and yet from which the patient will have a fair chance of recovery.

FRAUDULENT ADVERTISING.

THE *Perfumery and Essential Oil Record* for April contains an article under this title by "Observer" who certainly does not mince his words.

"The 'fraudulent advertiser' is as much a social pest as the 'three card trickster' or the blood-sucking moneylender, and by fraudulent advertiser is meant not merely the seller of worthless goods, but also the person who deliberately claims properties for his merchandise which they do not possess, or professes that he alone of all men engaged in his particular line produces goods worthy of the consideration of consumers. Fraudulent advertising is harmful and despicable in whatever light it is viewed. On moral grounds, on business grounds, on economic grounds it should be suppressed and killed with as little compunction as an obnoxious insect. . . ."

"Imagine the thousands of pounds which are annually extracted from the pockets of the public by means of fraudulent advertisements, and alas! too frequently the money is literally filched from the pockets of those who can ill afford it. It is all very well to argue that the public goes into the game with 'eyes open,' as it may seem that they do, but in reality they are hoodwinked from the first. . . ."

"The 'fraudulent advertising penny snatcher,' if he knows his game, has a whole bagful of rubbish to shoot out on the public, and just as fast as the sales of one of his trumpery fal-lals dries up he produces another, and, strange to relate, only too frequently catches the same 'flats' again and again. Well, as to the 'flats,' if they cannot protect themselves they ought to be protected. . . ."

Observer then goes on to express the opinion that advertising of this character is damaging to advertising generally:

"All will remember the famous saying of Abraham Lincoln, and, as all the people cannot be fooled all the time, some portion of the public, and perhaps no inconsiderable portion, may come to the conclusion—a false one admittedly—that all advertising is fraudulent. . . . It therefore behoves all honest men connected with advertising, and all newspaper owners who place principle before pocket, to kill the fraudulent advertiser before the fraudulent advertiser kills advertising. . . . What is wanted, therefore, is the excision of the fraudulent and insincere; and this in the interest of advertiser, newspaper, public, agent, and every man and woman dependent for their livelihood on the advertising business."

The same issue of this periodical contains an interesting article from the pen of the editor, Mr. J. C. Umney, on Grasse Revisited, which with its illustrations gives a good idea of the magnitude of the trade in essential oil and perfumes obtained from plants and flowers.

SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.

	£	s.	d.
Eight lines and under	0	4	0
Each additional line	0	0	6
A whole column	2	13	4
A page	8	0	0

An average line contains six words.

All remittances by Post Office Orders must be made payable to the British Medical Association at the General Post Office, London. No responsibility will be accepted for any such remittance not so safeguarded.

Advertisements should be delivered, addressed to the Manager, 429, Strand, London, not later than the first post on Wednesday morning preceding publication, and, if not paid for at the time, should be accompanied by a reference.

NOTE.—It is against the rules of the Post Office to receive *postes restante* letters addressed either in initials or numbers.